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THE

JOURNAL

OF THE

ANTHROPOLOGICAL INSTITUTE

OF

GREAT BRITAIN AND IRELAND.

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VOL. XII.

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LAKE TANGANYIKA

From a Survey by

Mr. Edw. C. Hore, Master Mariner

of the London Missionary Society

Scale of Statute Miles.

10 0 10 20 30 40 50

Scale of Geographical Miles

10 0 10 20 30 40 50

30 31

4° 5° 6° 7° 8°

UZIGE Mugihewa

R. Rusizi

Kagoma

Mukamba

C. Kusonga

Kavimba

Uviru

C. Kahanga

UVIRA

Mukamba

C. Bemba

Hisuka

Mkabondo's

Magala

N.Y. Herald Is.

C. Kabogi

UREMBA

Mgawe's

Mugevo

Bikari

Ritwewa

C. Panza

Mgamani

Mzimu Is.

MSANSI

Mtambara R.

BURTON GULF

Kalomba

Kiunju

Kisuku

Kihamba

Nemba R.

UKARAMBA

Chikabwe's

Mwongoro

C. Kaukwe

Mshiwazi

Kawimbwe

C. Kaganoa

Mrawengo

Musama

Gungu Harbour

C. Kanganja

C. Mdanga or Luanda

Lubulu R.

Lassi R.

UJIJI

Niasanga

Gungu

L.M.S.

Kigoma Bay

Bangwe Pen. & I.

Lucuche R.

UKARANGA

Ulombola Harbour

Malagarasi R.

Mungoro's

Bugufu R.

C. Mahihani

Mahuhazi River & Harbour

C. Kabogo

UKAWENDI ORUTONGWE

Mugolwe

Kawasinda I.

Katenga I.

Mgarja I.

Kavala I.

Kobisa I.

Mpu

Rumanda

L.M.S. Station

Kasange I.

Kerinai

Plymouth Rock

C. Kahangwa

Lugumba R.

R. Lukuga outlet

Kawe Nyangwe's

Inutaka

C. Niongo

R. Lugerewe

Mulungo

Mason Cascade

Calabash R.

Edith Bay

Kabogo Is.

Tembwe Head

Rugufu R.

Musangwira R.

Karema A.I.A. Station

Mt. Mirumbi

C. Masongwe

C. Kapindi

C. Mpimbwe

C. Chakaola

Msamba I.

Kisumbi I.

C. Kanena

Mpembe

Mpimbwa R.

Polungu I.

Linga R.

C. Kalambwe

Mirangorlwa

Mwangata

C. Kassowa

Akalunga

Muriros

Kalele

Mpete

C. Yamini

Mufinga

Musi

CAMERON BAY

ITAWA

Msenga

C. Kassowa

Kungus

C. Nyanzowe

Pongoti

HORE BAY

Kalambo

R. Kamba

R. Lufu

Kapufi Ford

Kuzu R.

Mtondwe I.

Mwangata

Kapata

Zombe

Pambete

H. Sharpe F.R.G.S. del.

From the Proceedings of the Royal Geographical Society 1888.

THE JOURNAL

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OF

GREAT BRITAIN AND IRELAND.

FEBRUARY 7TH, 1882.

F. G. HILTON PRICE, Esq., F.G.S., F.S.A., *Treasurer, in the Chair.*

The Minutes of the last ordinary meeting were read and confirmed.

The following new Members were announced:—Dr. BRABAZON CASEMENT; R. M. CONNOLLY, Esq.; Mrs. R. M. CONNOLLY; T. DIXON, Esq.; Mrs. T. DIXON; W. K. FOSTER, Esq.; F. T. HALL, Esq.; Miss MARSHALL, and T. RIDGWAY, Esq.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From J. W. POWELL, Esq.—Houses and House-Life of the American Aborigines. By Lewis H. Morgan.

From the GOVERNMENT OF NEW ZEALAND.—Statistics of the Colony of New Zealand for the year 1881.

From the AUTHOR.—Prehistoric Implements found in the Sandhills of Dundrum, Co. Down. By W. J. Knowles.

—— Uber Kunstlich Deformirte Schädel von Bórneo and Mindanáo. By A. B. Meyer.

From the AUTHOR.—Beiträge zur Ornithologie Süd Afrikas. By Dr. Emil Holub and Aug. von Pelzeln.
—— Sieben Jahre in Süd Afrika. Lief. 14-34. By Dr. Emil Holub.
From the SOCIETY.—Journal of the Society of Arts, Nos. 1521–1524.
—— Journal of the Asiatic Society of Bengal. Vol. L., No. 245.
—— Mittheilungen der Anthropologischen Gesellschaft in Wien. Band XI., Hefte 1, 2.
—— Journal of the Royal Asiatic Society. January, 1882.
—— Proceedings of the Royal Geographical Society, February, 1882.
—— Proceedings of the Asiatic Society of Bengal, November, 1881.
From the ACADEMY.—Atti della R. Accademia dei Lincei. Vol. VI., Fas. 3, 4.
From the INSTITUTION.—Journal of the Royal United Service Institution. No. 113.
From the EDITOR.—"Nature." Nos. 637–640.
—— Revue Scientifique. Tom. XXIX. Nos. 2–5.
—— Revue d'Anthropologie, 1882. No. 1.
—— Bulletino di Paletnologia Italiana, 1881. Nos. 1–11.
—— Correspondenz-Blatt. January, 1882.

The following paper was then read by the author—

On the TWELVE TRIBES *of* TANGANYIKA.

By EDWARD C. HORE, Master Mariner.

[WITH PLATE I.]

IN attempting to describe a dozen or so of the native tribes of Central Africa a large task lies before me—a task indeed which I cannot hope to complete, from a strictly scientific point of view. My work in Central Africa as a missionary involved, it is true, the study of mankind, but not always the close observation of those minute differences of colour, stature, physiognomy, or tribal marks so valuable to the Anthropologist.

There are, moreover, certain difficulties surrounding the attainment of such detailed observations, perhaps more insurmountable to resident missionaries, who must carefully avoid anything that would add mystery to their proceedings in the eyes of the ignorant, timid, and superstitious barbarian, than to a traveller whose known object is research into all scientific matters.

My account, therefore, will be a simple statement of what I have seen, in passing through or living with these tribes,

from which you may cull some information valuable to the objects of your Institute, rather than an attempt to offer any theory, or to deal with the subject in a strictly scientific manner.

Many of these tribes have already been described by travellers far more competent to the task than myself. I wish simply to add to those descriptions what I have myself observed

The *locale* of the twelve tribes referred to is the shores of Lake Tanganyika, in Central Africa, lying in from 3° to 9° S. lat. and from 29° to 31° 30′ E. long.; comprising, with its various bays and river-mouths, a coast-line of about 1,000 miles (*see* Map, Plate I).

Distant from the east coast at Zanzibar only 540 geographical miles (as the crow flies), the caravan route from the coast to the Lake (consisting, for the most part, of a continuous zig-zag of native paths from village to village, and determined, through a long course of years, by existence of water, avoidance of natural obstacles, and other causes) is lengthened to a distance of 800 English miles—giving the Tanganyika so far an interior position as to render some short description of the tribes encountered on the route from the coast almost necessary.

A hasty glance as we go westwards into Central Africa reveals something like this:—a narrow margin on the sea-board of a doubtful oriental civilisation, and a broader margin of small native tribes mingled with the lowest of semi-civilised half-castes, and fast losing their distinctive nationalities. The outer band of civilisation has sucked the life-blood of these communities—quite paralysed the native germs of civilisation, and up to recent times given nothing in their place.

Then, at from one to two hundred miles from the coast, we come upon distinct native tribes, of uneasy and apparently warlike aspect, too far from the coast to be completely overrun by the invading race, and therefore retaining, to some extent, the original native arts and customs: they seem in a chronic state of armed resistance to every one, and in most cases, as with the Wagogo, sufficiently powerful to demand a share in passing trade, in which, by their unsettled position, they are unable to take a legitimate share. They are neither far enough away from the coast quietly to produce, nor sufficiently near to it peaceably to trade. These unsettled tribes are everywhere the most difficult to deal with.

Continuing west, we come to real Central African tribes, amongst whom only we can fairly look for real samples of the native African, and amongst whom we find evidence of capabilities which only require appropriate assistance to develop

into civilisation—tribes indeed, which, isolated from the benefits of communication with the outer world, have also been, in many cases, isolated from the disturbing influences of such communication, and in peace and quiet have made some considerable advance in the use of the produce of their country, and in a certain amount of social order and tranquility.

Hence in an observant journey into this region, instead of, as might be expected, going deeper into ignorance and barbarity, we regularly advance from the socially and physically degraded barbarian, settled often but a mile or two from the coast, to the real healthy active savage of the far interior, living in large orderly settlements, and pursuing the industries he has patiently acquired. It is not without substantial reason that extensive missionary organisations have sought a field of labour in the far interior.

Off-shoots of the doubtful civilisation referred to have penetrated even to the far interior, and settled, leech-like, upon some of these tribes, but except in certain isolated localities, and in the case of some small weak tribes, they have not taken possession. The slave trade, however, the original end and purpose of those distant representatives of civilisation, has left no part wholly untouched.

I will not attempt to describe fully the coast natives, forming the outer margin of disturbed and degraded tribes. From the coast to Mpwapwa (200 miles) we pass through Useguha and Usagara, in which districts are settled the representatives of many other tribes. Eight or ten miles from the coast, we may see the real barbarian living in a tiny beehive hut—a kilt of grass his only garment, and bow and quiver his constant companion. Since the commencement of the active suppression of the slave trade the countries covering this first 200 miles between the coast and Mpwapwa are, however, evidently recovering from their miserable condition, and though original tribal distinctions are most difficult to trace, their obliteration is perhaps partly conducive to the gathering of industrious communities, which are even now showing promise of what more peaceful times will do for these regions.

Two smaller belts of country remain to be described on either side of the apparently warlike tribes referred to, and serving still further to isolate them from the tribes to the east and west. These smaller belts form a sort of unsettled or debateable ground, for the most part badly watered and serving as a refuge for wanderers and outcasts from all directions, and especially for those bands of robbers or bandits, the terror alike of passing travellers, and of the settled tribes whom they frequently molest. These desert tracts, however, are nominally

portioned out as belonging to certain adjacent tribes. They are represented on the line of our route by the Marenga Mkali in the east, which is nominally included in the country of Ugogo, and the Magunda Mkali in the west, nominally the possession, in parts, of the Wagogo, the Wamyamwezi, the Wakimbu, and the people of Uyansi.

At Mpwapwa (200 miles from the coast) we come to the borders of Ugogo, and may suppose we see something of the Wagogo. We see, at any rate, the tribal house and something of the tribal dress and ornaments, but they are here much mixed with the Wasagara. We must cross the Marenga Mkali in order to see these people with their true character developed in their native home. Ugogo may be roughly described as a vast plain, draining, where it does so at all, south into the Rufigi river, and divided into eastern and western Ugogo at a verdant strip of lofty forest, and extending from the Chunyo Pass at Mpwapwa to the steep step on to the forest uplands of Uyansi, a distance of 70 to 80 geographical miles. I estimate the country of Ugogo to contain from 3,000 to 4,000 square miles. The line of unsettled and apparently predatory tribes here represented by the Wagogo is continued north in the Wamasi and Wahumba, and in the south by the Warori and Wakimbu.

Our line of route from Ugogo, probably by far the most populous part, passes through ten distinct districts of villages, each containing from 15 to 50 houses or villages, varying from 70 to 80 people. At Mvomi, the first of these districts, I counted, from a slight elevation, 40 of these houses.

In these houses, or tembes, we find the first distinct tribal characteristic. They are of a rectangular shape: two stockades, one from six to eight feet within the other, form the framework of the house, closed in above by a flat roof of rafters covered with earth; the walls are then filled in and plastered over with clay. One central door or gateway affords the only means of ingress and egress, and the cattle, sheep, &c., the general property of the villagers, are placed in the centre. The surrounding house is portioned off into small compartments for families. The one door being closed at night shuts in effectually the whole community.

The Wagogo have often been described as a bold, impudent, warlike tribe. They are necessarily so, to some extent, from their situation in the country as before described. Their system of "*hongo*," or customs dues, is almost the only means they have of sharing in the commerce of the country, and perhaps they are entitled to this in return for a free and peaceable passage through their territory. They certainly afford the protection

and supply to caravans which would be expected under similar circumstances in any place. In the Wagogo, the traveller comes, almost for the first time, upon real distinct tribal customs, dress, ornament, arms, and manufactures.

The Wagogo are generally rather short, thick-set people, with thick lips and woolly hair, although the latter is seen to grow to considerable length in many instances, encouraged by the tribal custom of lengthening it out in little plaits weighted with beads or pieces of metal. The clothing is very scant, consisting, in the males, of a short mantle of well softened goatskin, often fringed or embroidered with white beads, and covered with bands and spots of bark dye. The tribal ornaments, however, are very profuse; iron bracelets and anklets, as well as those of hide, necklaces of beads, and chains and earrings of every imaginable description and material, serve to give the people an appearance of being elaborately clothed. The young children very seldom have any clothing at all, and the women more frequently use imported cloth, according to their means. The Wagogo are generally well armed; their spears, of immense length and size, are noted amongst all the tribes. They also carry a short two-edged sword, evidently imported from the coast, as well as clubs and bows.

Circumcision is practised by the Wagogo, amongst whom it is evidently an important rite. The youths are secluded apart in a hut, on an open plain, away from the immediate neighbourhood of villages. This hut is decorated profusely with charms, &c., consisting of bones, feathers, pots, skulls of animals, &c. The particular hut I observed was without roof. A close inspection was angrily denied; in fact, I found I had incurred displeasure by approaching it. Exercise is allowed to the patients while still in retirement, being marched about under the care of a responsible person. During all this time the youths wear a conspicuous apron, hanging behind and before from the neck, and consisting of little pieces of hollow reed strung on cords so as to rattle with every movement. They are further made conspicuous by means of daubs of a white substance upon the face and body.

The districts are ruled in orderly manner by their several chiefs, each appearing to be well nigh independent in his own small territory. Although subject to frequent attacks from the cattle-stealing Wahumba in the north, those people may still be seen in frequent friendly relations with the villagers, especially in western Ugogo. On the south side of western Ugogo the Wakimbu also mix in friendly intercourse with the people, their villages being frequently side by side. In the debateable border beyond western Ugogo may be seen, near together, villages of Wagogo, Wakimbu, Uyansi, and Wahumba, although they all

seem to retain markedly their own tribal characteristics. The Wahumba, especially, seem to be a distinct race, with tapering limbs and much finer features. They are very fine representatives of what I shall call the Abyssinian type, which seems to come in from the north upon all the districts I am describing, to be traced especially in these people and in the Wahha, Wajiji, and Warundi.

Passing rapidly over this district we come to Unyamwesi. We have now to deal with the more prosperous, intelligent tribes inhabiting those inner regions, which may be described as forming the equatorial Lake Regions, for the most part well watered countries. Unyamwesi proper is a large country, comprising, probably, about 12,000 square miles, divided roughly into two portions, respectively under the control of the Arab colony of Unyanyembi, and the famous native chief Mirambo. Mirambo himself describes his country as extending from the shores of the Victoria Nyanza to the south end of Tanganyika. No doubt his influence does extend to those limits, but his own proper possessions may be included within much smaller bounds. To give an adequate description of Unyamwesi would fill a volume. I hope shortly that Dr. Southern, our missionary at Urambo, will give us the benefit of his careful research into the history, manners, and customs of these people. A mere glance must suffice here. In my rapid visits to the Wanyamwesi I saw amongst them two types: one a short, thick-set people, somewhat similar to the Wagogo, the other tall and slight, but both are equally active, and have the beautiful sharp merry eye almost everywhere characteristic of these people. Almost every tolerably well-to-do individual is clothed in European cloth. They are settled in large well protected towns. Except upon the western borders of the country, the square *tembe* is seldom seen. From 100 to 200 large round conical-roofed houses are protected by a tall stockade with fortified gates, the houses themselves, indeed, being well fitted to withstand an attack, as they are surrounded with an outer gallery of strong logs. In Mirambo's town, especially, the houses are very fine and large, being built with a floor above in the roof, and the town itself is surrounded by a double wall, forming, in fact, a huge *tembe* enclosing several hundred large round houses, Mirambo's own establishment being in the centre. Numerous blacksmiths' shops, factories of bark boxes, pottery works, and other industries, indicate that we have arrived among the industrious tribes I have referred to. The Wanyamwesi are doubtless an energetic race. Under their chief, Mirambo, they have successfully protested against the tyranny of the Arab colonists, and bid fair, under his effectual leadership, to become

a prosperous and peaceful, if not a civilised nation. A mission station has been successfully conducted in the immediate neighbourhood of Mirambo's town for the last two years. Wonderful influence for good has been gained over this chief, who is determined, he says, that his country and people shall learn to take their place among civilised races.

In the natural order of things we should now come to the Lake shores, but another tribe, the Wavinza, intervenes between the Wanyamwesi and the Wajiji, which will probably ere long be included in the former tribe, having many of the same characteristics, only perhaps in a less advanced degree. This tribe holds the ferry of the Malagarasi river, which has, in fact, long been a natural barrier to prevent their assimilation with the Wanyamwesi.

We now advance to the territory of the Wajiji, the first of the twelve tribes of Tanganyika, and the first, not only for convenience of description, but because in this country all travellers from the east have found it a convenient point of approach to the great Lake. The town of Ujiji itself, in fact, is the metropolis of the Lake, and has become the centre of trade and communication for the whole district. Ujiji is a country ruled over by a sultan, or native head chief, but actually by some two or three men called Mutwale among the chiefs, or Wamteko, of the 30 or 40 counties or districts into which the country is divided. I roughly estimate the country to contain from 700 to 800 square miles, with a coast-line on the Lake of some 40 to 50 geographical miles. The population is large—larger than a hasty survey would indicate, the country people on the heights living in large populous villages. Ujiji is bounded on the north by the river Mohala, and on the east by Ruiche river. What is most frequently known as Ujiji, however, is the metropolis of that country, and, as I have said of Tanganyika. It is a straggling town, spreading over portions of two counties or districts, viz., Ugoy and Kawele, and forming the headquarters in that neighbourhood of a colony of Arab slave and ivory traders, as well as a native market frequented by representatives of all the tribes upon the Lake shores. It is the terminus of what for years was the only safe and well known route from the east coast to the Lake, and an important station upon a line of traffic adopted by common consent as a convenient course right across the continent.

The most noticeable feature in Ujiji is its market, which, however, has often been described. It is rather an exchange for produce from many of the lake countries than representative of a large producing country; the only export of great extent from Ujiji itself being the famous packages of salt, current all

over the Lake shores as a medium of barter. This salt is manufactured once a year on the banks of the Ruguvu river, east of Ujiji, where from 2,000 to 3,000 persons sometimes assemble at the proper season, just before the commencement of the rain, forming quite a town for the sole purpose of manufacturing the salt. It is packed up in cylindrical leaf packages weighing from 20 to 30 lbs. each, and valued at Ujiji at about two yards of good calico. The market of Ujiji town consists, generally, of an assemblage of from 200 to 300 small booths or stalls, exposing for sale almost everything that the Lake countries produce, as well as meat, vegetables, fruit, and grain. Here for the first time we find a regular currency or money in use by the natives; it consists of strings of blue and white cylindrical beads, each string containing 20 beads. Bunches of 10 strings are called "*fundo*." From 9 to 11 fundo are given in exchange for 4 yards of thin Manchester calico, and from 12 to 15 fundo for 4 yards of good heavy American calico; the value varying daily, according to the quantity of cloth in the market. The four-yard piece, or "*doti*," and the two-yard piece, or "*Shukka*," are the lengths generally used in trade. One-yard pieces are also used, but are then of less proportionate value. *Kanika* (Indian blue-dyed cloth) is about the same value as the Manchester calico. Coloured cloths, with nails and coils of copper and brass wire, are used for more extensive purchases.

Besides the market in Ujiji town proper, which is frequented by the Arab and Swahili community as well as natives, there are the country markets, some of them frequented almost entirely by natives, and in their hands, especially one at Gungu, about six miles from Ujiji, where large quantities of palm oil are brought from Urundi. The natives frequent these markets daily for their supply of food. Mtama corn is largely imported into Ujiji as they produce maize themselves. A small quantity of palm oil is produced also in Ujiji, but Uvira salt is the principal export. The famous pottery and iron ware is disposed of in considerable quantities at Ujiji, although they are already vieing with Uvira in pottery work.

The houses in Ujiji town are first the large square flat-roofed Arab houses built in the same style probably as that of centuries ago, and smaller square houses imitating this style to some extent. But a walk of three or four miles is sufficient in order to see the real native type of house, dress, &c. The Ujiji house is of a large beehive pattern, very frequently without any internal support, the whole thing depending upon the beautifully made framework or skeleton of bamboo and branches, which is thatched over with grass. A little porch is

frequently made before the door. Slightly raised bed-places covered with mats, and the regular African three-legged stool, represent most of the furniture. The villages are numerous but small, each one ruled over by a village headman, or elder, who himself is subject to the district chief, or Mteko.

Although the tsetse fly may be found within a few miles of Ujiji the country is so far cleared as to enable the people to keep considerable numbers of domestic cattle. There is a large and long-horned breed of cattle highly valued by the Arab settlers at Ujiji; they are also found in Uvira and Urundi, and have many of the characteristics of the Galla ox. There is also a smaller breed kept in large numbers by the natives on the inland heights. Goats, fowls, and pigeons of many kinds are plentiful, the latter being rather kept as pets in the villages than as food. Pombe is manufactured from malted Mtama, and a weak spirit or wine is made from the banana. Dishes and drinking-vessels are wooden bowls or baskets. The principal foods are Mtama, maize, and Mhogo, or cassava. The latter is used in many forms, either simply cooked and as a vegetable, or dried in slices and pounded up into a coarse meal, which is made into a sort of loaf or pudding.

The Wajiji may be said to be a tall race. I think I have nowhere seen finer looking people, straight and well made for the most part. They aid their own natural good appearance by an upright carriage, and some attention to neatness and smartness of dress and ornament, without any superfluity. The common garment is of bark or cotton cloth, tied over one shoulder, and open at the side. The distinctive national ornament is a crescent-shaped piece of hippopotamus ivory. European cloth, however, is being largely introduced. The women anywhere near the Arab colony like to imitate those settlers in the matter of attire and dressing the hair, which is neatly divided into narrow ridges from back to front. The men usually shave the head, leaving a round or crescent-shaped patch on the top or side. They are not profusely ornamented. Copper or iron sambo bracelets, bound with wire, are common, and serve also for purposes of barter and exchange. Chiefs and well-to-do men often wear solid brass or copperware bracelets, and carry in their hands a small tomahawk. It is noticeable that I have never seen an Mjiji in possession of a gun. The Arabs have been able to prevent the introduction of firearms where it suited their purposes. The weapons of the Wajiji are spear, bow, knife and club. The bowstring is made of the fibre of the rafia palm-leaf, of which they also make fine cord for various purposes. The spear is rather roughly made to be inserted into the wooden shaft, but the famous Uvira spears,

which fit to the shaft in the reverse way, are largely taking the place of the former. Cotton and bark cloth are also manufactured.

The long two-edged knife, with central ridge, is also an importation from Uvira.

I have failed to find that fierce untameable character which has been ascribed to the Wajiji. In a normal state there is found in the villages a peaceful, social, and family life. Perhaps no people on the Lake shores have had more difficulties to contend with in order to a peaceful condition: polygamy, although perhaps not the rule, is quite lawful and only limited by the means of the individual. I suppose there are very few families without one or more domestic slaves, but they are really domestic slaves, mostly bearing the relation of members of the household.

As in most of the Lake tribes the work of the field appertains to the women. The young girls invariably accompany their mothers, assisting in this work, and early learning to carry loads on their heads. The smallest article, to be carried any distance, is placed upon the head and carried with wonderful precision and skill. Much has been said about the unfair division of labour in such circumstances, but when it is considered that a wild man finds scarcely anything to his hand, but must himself cut the wood and the grass to build his house, manufacture his spear and cooking vessels, take his part in tribal duties, and is frequently compelled to seek food in long and laborious hunting expeditions, it will be seen that he often gets his fair share of work.

The Wajiji are famous for their extensive fishing journeys. In fleets of from six to twenty canoes, they remain away often for a month or two, accumulating large quantities of the small *dagga* which, dried in the sun and packed up into large bundles, are sent far and wide throughout the country.

The Warundi (proceeding northwards round the Lake shore) are in many respects similar to the Wajiji. Physically they are almost the same; for the most part of good height and shapely build. Were Ujiji stripped of its market and metropolitan character, it would be a much poorer country than Urundi. Urundi, including in it the district of Uzige, has about 120 miles of coast-line abutting on the Lake, and from such information as has been collected, extends to some considerable distance north-west of the Lake. As in Ujiji, they admit allegiance to the big sultan "who lives up in the hills," but many of the Mtekos, or district chiefs, are probably supreme in their own locality. Urundi has also several markets. The principal export is the palm oil, which is put up and sold in large and

fine egg-shaped jars, containing about two or three gallons. They are also famous for medium-sized lake canoes, which they build to a set pattern, but which are not so fine or so strong as those built in Goma.

The Warundi are famous fishermen. This industry is carried on, as well in log canoes as in small rafts, or catamarans, made of the trunks of the pith tree pegged together. Five or six of these small trunks form a raft sufficient and safe for one or two men, with their fishing-tackle, and are easily drawn up on to the beach, or into the villages when not in use. Into the canoes which go out fishing at night, they place long torches or bundles of reeds tightly lashed together, and often longer than the canoe itself. One end is lighted, and is pushed over the bow of the canoe as it becomes expended, but they last nearly all night.

The Warundi are apparently more fierce and unapproachable just in proportion as they are less acquainted with strange travellers from a distance than the Wajiji, but where I have landed in their country I have succeeded in making friends with the people.

They have a splendid and rich country. Immense groves of bananas, large corn-fields and gardens cover the verdant slopes from the Lake shores to the hills, and aid in giving this people a generally prosperous appearance. The beads used as a currency at Ujiji are here largely used as ornaments, as well as the crescent-shaped hippopotamus-tooth referred to in Ujiji.

It is doubtful whether Uzige should be considered separately from Urundi. The chief certainly is powerful and probably nearly independent, but still the natives say, "it is all Urundi."

Explorers seeking to traverse the country between Tanganyika and Victoria Nyanza, will have to make negotiations with the people of either Uzige or Urundi. I have myself no doubt concerning the success of such negotiations if made in a cautious and friendly spirit, but the Warundi are a courageous and spirited people, and will doubtless, and with good reason, demand a full explanation of purpose from all visitors.

The extreme north end of the Lake, with its long low approach of reeds, and the openings to the Rusizi river afford a home for the hippopotamus.

The people of Uzige and Uvira hunt this animal in specially fitted canoes, with spears having long ropes attached. A lump of the pith-tree wood is put on the end of the spear shaft to serve as a float.

Coming round now to the west side of the lake we find at Uvira another extensive mart, but this time not so much so

from its central position among other tribes as from the value and quantity of its own produce. Uvira proper presents a coast-line of only about 20 miles to the Lake, but it is the port, doubtless, to a rich and large-interior region whence ivory is collected in large quantities. Uvira is famous for its iron and pottery works, both of especially fine quality, and is a favourite locality for Arab traders to reside for a few months, or sometimes for a year or two, collecting ivory and trading in various local products. The Waviri have found considerable assistance in this way to their local industries, which are encouraged by the Arab traders. It is also recognised as one of the healthiest positions upon the Lake shores. The people are a smaller and darker race than the Warundi, with very thick woolly hair and dark eyes, although by no means the coarsest of negro features. Some of them are very small.

The next 50 miles of coast-line is that of Msansi and Bemba. The latter name, however, I think only applies to a small locality immediately around Cape Bemba, famous for its kaolin, or china clay, and regarded by the natives as a very sacred locality.

The Wamsansi have, I think unfairly, received a name for morose inhospitality. I had no difficulty in landing at various places, and received ordinary hospitality. Some trade in ivory is carried on here, but they are far poorer and more unsettled than the people of Uvira or Urundi. They have, however, many canoes, and carry on considerable intercourse with the Warundi.

The peninsula of Ubwari is one of the curiosities of the Lake; a little country complete in itself. This peninsula, nearly 30 geographical miles in length, and from 6 to 12 miles in width, appears to be formed of one single mountainous ridge, and would probably be a very healthy locality. The Ubwari in general appearance, feature, and manner, are quite distinct from other tribes. Rather below the ordinary stature, they are of a lighter colour than their neighbours, and their limbs are very tapering, with especially small hands and feet. They are much more poorly off in the matter of clothing and ornament than their neighbours on the east side, having but little cloth and but little native produce in its place. Their poor and unsettled condition is attributable very largely to their being the objects of periodical raids by the warlike Warna, but doubtless they must industriously collect such riches as to make them worth these attacks. Parties of these Ubwari may be seen at intervals at Ujiji bringing small quantities of ivory for sale, and probably slaves. They are expert fishermen and grow large quantities of Mtama.

We must class with these people the inhabitants of Ukaramba

on the south end of the peninsula. They, however, are darker in colour than the Ubwari, and form a sort of connecting link between them and the people of Goma. All these people have a peculiar way of dressing the hair: cut all round, it appears like a black skull-cap with a central tuft, the whole being arranged in horizontal ridges.

The country of Goma has a coast-line of about 70 miles, for the most part approaching the Lake very steeply. The villages, being situate on the ridges and tops of these hills, are often reached by extremely steep paths or steps. These people are also subject to the attacks of the Warna and give one the idea of being continually on the defensive. My first approach to the shores of Goma was in the middle of the night. The people assembled in large numbers and threw large showers of stones down upon us, but daylight revealed, what I had expected, that they were not aware their visitor was a European, and that being known, they received me cordially on the strength of good reports they had had from Ujiji. They are a lively and active people, almost as light coloured as the Ubwari. Their chief characteristic is an appearance of cheerfulness and happiness. Their houses, unlike those of the Wajiji, have distinct walls and separate roofs. They do not wear a large amount of clothing or ornament, and have but few arms. The country is governed, as far as I could observe, only by local chiefs. Traders settle at one or two points in Goma, trading with salt, cloth, and beads, for ivory. But the famous produce of Goma is its canoes, which are made of solid logs up to sizes of 40 feet by 7 or 8, and are triumphs of native African art.

Where Goma ends and Uguha commences it is difficult to say; for purposes of description I place the boundary about the north side of the islands, which gives Uguha a coast-line of about 90 miles. The grand feature of maritime Uguha is its bay of islands and Lukuga river. Uguha, further investigation will doubtless reveal, is but a principality of the large country of Rua, but for all purposes of government and trade, Uguha is a separate country, ruled over by several rich and powerful chiefs, amongst whom it is difficult to say which is senior: the honour probably fluctuates. This country presents a very rich field for the investigation of native habits and customs, and of possibilities of a considerable state of advance in industry and social order amongst still savage tribes. In the people themselves the most noticeable feature is the head-dress; they might well be described as the "head-dress people." Men and women alike are got up in the most elaborate style. The hair is encouraged to grow long by every possible aid of combing and stretching over rolls and puffs, which are built up into shapes resembling

crowns or turbans, and ornamented with iron and copper ornaments, bands of cowries and beads and terminal points and cones, forming a structure requiring great care to preserve from damage. This is achieved by the use of little wooden head-rests, or pillows, which are used in sleeping to keep the head from contact with the ground or bed; the women, especially, are extensively tatooed. The usual dress, whether of skin, European cloth, or native grass-cloth, is gathered about the waist, with a great bunch in front. In the case of chiefs, however, it is ornamented frequently with a sort of leopard-skin apron. Ornaments are extremely plentiful; a conical shell, brought from the coast, is ground down with flat surfaces, and strung together to form huge necklaces for the chiefs. The large blue and white beads, of the size of pigeons' eggs, are most popular for neck or waist ornaments. Large spiral bracelets of copper wire adorn the arms and legs of the well-to-do women, whose dress is distinct in shape and form from that of the men.

In the villages of the Waguha, even in the smallest of them, there is an attempt to arrange the houses in regular rows or streets. This is finely illustrated in the town of Ruanda, about ten miles from the London Missionary Society's station. This town contains from 400 to 600 houses, arranged in straight rows. A long central street runs the whole length of the village, and its beauty is enhanced by the presence of several fine bombax trees, placed at regular intervals at cross roads. The houses, though at first sight of an ugly shape, are really very beautiful structures, built on a square plan, tapering from the top of the walls to the point of the roof. So much thatch of coarse grass is placed over and around them as entirely to hide the shapely form of the house, but inside the intricate and beautiful work is fully seen. Fine clay, such as is used in pottery, is smoothly plastered over the floor and around the walls, generally of a rich chocolate colour. Into this are built smooth upright logs, forming stands or legs for bed-places, racks for firewood, or enclosed fortified places of retreat from an enemy. They are of equal size, smooth, clean, and even coloured red or brown. Beautiful mats are spread upon the bed-places, richly carved stools, and stands for arms; and almost invariably an image representing the guardian spirit or ancester of the family is placed in a safe and prominent position: the cooking-pots hung up in the roof in a netting, firewood neatly piled up in its own place, and the floor cleanly swept give to some of these interiors a most clean and comfortable appearance.

In some of the larger houses, and those of the chiefs, elevated tables are made, on which are placed packages of corn, meal

salt, &c. The images or figures of spirits and ancestors, to which I have referred, are a noticeable feature in this country. They are placed at the entrance and principal parts of the villages. They are certainly not idols, as we accept the term, but are regarded as sacred objects, although it is not difficult to purchase specimens.

Some of the well-to-do chiefs referred to have very many to wives. Casanga, the chief at Ruanda, for example, is said have 200 or 300. But they deal largely in domestic slaves, and many of these, doubtless, must be regarded rather as slaves than as wives. The general appearance of the people is bold and self-possessed, and though not perhaps of so gainly an appearance as the Wajiji and Warundi, they are stronger and more hardy. In south Uguha the same amount of prosperity does not exist, although tribal characteristics continue. They have not the same benefit of traffic and intercourse with others as have the people of north Uguha, and for many years there have been poverty-bringing troubles between neighbouring chiefs.

One of the chief products of Uguha, or perhaps more properly Rua, is the famous grass-cloth and iron ware. The Waguha themselves also produce very beautiful mats, basket work, pottery, wooden bowls and platters, and various small carved work. On one of the islands, Mtowa, there is a famous pottery, and here, and in Uguha generally, they produce some of the largest vessels to be obtained anywhere on the Lake shore. There are some special peculiarities about the arms of the Waguha. The bow, for instance, is quite unlike that of any other tribe. The bowstring is made of hide or tendon, and is carried through a hole at the end of the bow, which is not carried to a point, but is bound through with iron. The spears of Rua and Uguha are very finely made, and sometimes beautifully ornamented and carved. They, however, are inserted into the wooden shaft, unlike those of Uvira, and the shaft itself is armed at the butt end, not with a spike as in other tribes, but with a small axe or chisel-shaped piece of iron. The tribes, with the pointed spear-end, explain its use to be that of sticking into the ground. The Wajiji explain the use of their chisel-shaped end to be that of digging a hole or cutting roots.

South of Uguha, the country of Marungu extends with a coast-line of 140 miles, having an extremely varied aspect, but towards the south presenting a very bold front to the Lake. It is, perhaps, at the present time one of the principal slave-producing or trading countries around the Lake. Voyages are frequently made from Ujiji to Warungu, but I know of no produce coming from there in any quantity. The salt and palm oil of Ujiji here attain an almost fabulous value.

Possessed of many populous villages and an extensive country, hospitable too, as far as I have seen them, the Marungu have not yet received the visits of many travellers, and a large field still lies open in their country for investigation. They are famous makers of bark cloth. They are a rougher-looking and darker race than the Waguha.

Itawa, next to the south, has a coast-line of about 80 miles. King Muriro of Akkalunga is supposed to be the head chief, and the Msika in Msumbu the second in authority. As we might expect to find, from its position, the people of Itawa show indications of communication with the west. They are probably near a line of traffic from the Katanga copper-fields to Unyanyembi. Very many of them are in possession of guns, and here and there Swaheli traders and elephant hunters are settled, but for the most part these are poor and isolated individuals. They are a large-limbed, dark, and coarse-looking race generally, though some of the women have a very fine appearance. Local chiefs have considerable power in their own districts, and it is well it should be so, for the chief, Muriro, is in a continual state of drunkenness and imbecility. When he came to visit me in my boat he had to be pushed along by three or four of his wives, and exhibited but little interest or care for anything beyond himself. The women are famous smokers of tobacco, which they also manufacture into cakes here and at the south end of the Lake. Sugar-cane is produced in some places, and large luxuriant corn-fields fill the damp hollows.

The river Lofu is supposed to form the boundary between Itawa and Ulungu, which latter has a coast-line of at least 100 miles, forming the south end of the Lake.

I had expected to find a scattered and mixed people, but I found them to be a distinct tribe, with their own peculiar customs, dress, arms, and houses. The most characteristic article of dress is the goatskin garment worn by the women; the top part being unconfined, it hinges, as it were, at the waist, so that on sitting down it at once swings into its proper place as a mat or carpet; the lower part is scalloped in a set pattern.

The most common grain is the *uleysi*, cultivated in circular forest clearings, watched from huts raised on high poles. The nether millstones used by the Walungu are neatly embedded in a plaster bench or table, with a receptacle for the meal.

Uganga, in its various forms of fetishes, miniature sacred huts, and mystical performances, flourishes in every small village. The tsetse fly was seen in all parts, even to within half-a-mile of Zombe's village, the only place where cattle are kept. Cotton is cultivated largely, and cloth made as at Ujiji. The bow of the Walungu and Wafipa is peculiar, having two elbows in it,

instead of being, as usual, the segment of a circle, and a tassel of long dark hair is attached. Bees are cultivated, and large fish-traps are anchored off the shore to entice the large and oily *senga*.

The people of Fipa, occupying a coast-line of 120 miles, are somewhat allied to the Walungu in appearance and manner, being decidedly a dark race. They own allegiance to Chief Kapufi, who lives in a central position a short way inland. They have many rich and populous villages, and have doubtless been great slave traders, but have no produce to export, to any great extent, beyond the interchange of food and a small quantity of ivory. The borders of Fipa and Ukawendi are a short distance south of the Belgian station at Karema.

Ukawendi, or Utongwe, is perhaps the least known country upon the Lake, at least as regards its inhabitants. With a coast-line of about 140 miles, extending from Karema to the Malagarasi river, it includes some of the most beautiful scenery upon the Lake shores. Many of the heights are well nigh inaccessible from the Lake, into which numerous rivers flow from a great elevation.

The people of Ukawendi are much scattered, and have the name everywhere of being robbers. They have little or no trade anywhere upon their seaport, hence it is known to them only as a way of access for probable enemies. Visits have been received by them in former times which have probably been from slave hunters, and it is difficult for them to understand any friendly visitors. At one or two points, such as Kabogo island and Cape Kungme, bands of wandering robbers have learned to seek opportunities of plunder in boats seeking shelter at those places. Altogether the people have a bad name upon the Lake, and are especially feared by the Wajiji boatmen. There are capabilities, however, amongst these people, doubtless as good as of any tribe upon the Lake. I have succeeded in visiting and forming friendship with the young chief Mtongoro, at the extreme north end of this coast-line, and through him I hope to make the people understand that our intentions are friendly. At this village I found indications of prosperity and order which promise much. The small but respectable houses, made principally of reeds, were surrounded by a stockade of bamboo neatly ornamented. The young chief Mtongoro is a great hunter and himself collects ivory.

As far as I have seen, they are a poor, because an unsettled, people. Cultivation is irregular and limited, and little clothing beyond skin is worn except by chiefs. Many renegade Wamyamwesi have also cast in their lot with these wandering people. I also saw something of the Ukawendi at Karema,

which place I visited before the arrival of the Belgian party. Every village is fortified, and in a doubtful state of friendship with its neighbours. The chief employment seemed to be buffalo and elephant hunting, and a certain amount of prosperity was due to the entreme luxuriance of the neighbouring moist plain. They also produce and manufacture tobacco, and place great value upon the palm oil and salt of the northern countries. They are a dark unpleasant-looking people, with very little of distinct tribal ornament or dress.

There seems to be a general vague idea amongst the tribes of the existence of one all-powerful being, superior to the other spiritual beings or influences they believe in; but of worship, save the offerings placed in miniature huts in the fields and village, I have seen none.

It is a great mistake to suppose that uncivilised and so-called savage tribes are necessarily wicked and murderous.

After living nearly four years amongst the tribes I have described, I have to report that I find among them every natural affection and friendliness, general protest against abuse, and often an earnest desire for light and improvement.

Much has been said of the dangers to Europeans in visiting these tribes; but if any, it is incurred by a hasty disregard of the very natural shyness and timidity of such people on first beholding powerful parties of strange people entering their country for unknown causes.

We have heard even of travellers murdered by the natives. I know nothing of Europeans being murdered by Central African natives, except in cases (parallel with cases in Europe) where hordes of banditti both rob and murder their victims; but only one even of such cases has come under my notice in Central Africa—viz.: the case of Mr. Penrose, of the Church Missionary Society—and that, just as it might have occurred in Europe, did not necessarily involve the guilt of the inhabitants so-called. There are cases in which upon evidence—strange evidence, perhaps, but certainly upon, to them, stronger evidence than would be necessary in the case of one of their own countrymen—Central African tribes have passed sentence of death upon a visitor for what they deem to be gross offence against their moral code and peace of society. In one case I have myself been condemned to death under such circumstances.

There are cases also in Africa (as in Europe) where neutral persons have fallen by accidentally coming between belligerents blinded with the flurry of battle and mutual animosity, as in the case of my lamented friend, F. F. Carter, and his companion.

There have also been cases of mistaken identity, as when the supposed murderous and cannibal people of Goma on Tanganyika

stoned me at night from their lofty hill-sides, but who, when daylight revealed my white skin, received me with acclamation to their shores, saying they knew the white man was good. And there have been cases where want of tact has failed to convince the alarmed and instinctively armed savage that he was not himself about to be attacked or enslaved; but of actual *murder* I know nothing, and I think it unfair to pass such a sentence upon distant, and doubtless ignorant and savage, tribes, among whom I have lived in friendship and safety, and whom I assert not to be degraded (except inasmuch as all men are so), but who have made some small advance, isolated as they have been from the benefit of intercourse with their fellow-men, in the use of the produce of their country, and a certain amount of social order, and several of whose chiefs have deputed me to send "good, true men" to live among and teach them.

After visiting every one of these tribes, I am able to say that whenever I have encountered the real native African face to face, free from the intervention of the Arab slave trader, or the disturbing influence of a doubtful civilisation, I have succeeded in making friends with them, and there is among them a universally expressed desire for intercourse with their visitors, and a vague longing after something better, socially and morally, as well as with a view to the immediate gain which such intercourse seems to promise them.

There is yet opportunity in these comparatively undisturbed tribes of the far interior fairly to test the effects upon the African race of Christian civilisation—before the disturbing influences of fortune-hunters overwhelm such germs of civilisation as they possess.

Such effort is being made by the London Missionary Society, in connection with whose work I have been enabled to gather what I have laid before you this evening.

Explanation of Plate I.

Map of Lake Tanganyika, from a survey by Mr. Edward Coode Hore, the author of the preceding paper. Reproduced from the "Proceedings of the Royal Geographical Society" by permission of the Council.

Discussion.

Mr. Geo. M. Atkinson called attention to the forms of the spears exhibited by Mr. Hore as of native manufacture. They did not exhibit the depressed side generally found in African weapons. The construction mentioned of the rafts was very interesting.

Mr. WALHOUSE remarked that the description of the rafts formed of four or five logs, bound together, used on Lake Tanganyika, recalled the catamarans so well known on the Madras coast.[1] The fine leaf-shaped spear-heads exhibited closely resembled spear-heads used in various parts of Southern India, and though Indian steel and wire work has been immemorially famous, this specimen, from a recently-discovered remote inland region of Africa, quite equalled any Indian production the speaker had ever seen. The small beehive-shaped huts in which various offerings are left exposed, as Mr. Hore thinks, to propitiate spirits or other supernatural beings, seem to resemble the offerings to local or village deities of rice, fruit, flowers, &c., commonly placed under trees in fields, or by roadside, all over India, and sometimes covered by a small flat stone laid on others.

Miss BUCKLAND and Mr. BOUVERIE-PUSEY also joined in the discussion.

The following paper was read, in the author's absence, by the Assistant-Secretary:—

NOTES *on the* NAPO INDIANS. By ALFRED SIMSON, Esq.

THE Indians in the "Oriental Province" of Ecuador are, in common parlance, divided into two great classes called "*Indians*" and "*Infidels*" (*infieles, ancas*). The former all speak Quíchua, eat salt, and are semi-Christianised; whereas the latter speak the many languages of their various tribes, do not eat salt—at least do not take measures for supplying themselves with it regularly—and are not baptised. Amongst these are the Záparos, Piojés or Santa Marias, Cotos, Tutapishcus, Anhishiris, Intillamas, Meguanas, Copalurcus, Tamburyacus, Payaguas, Cauranos, Pucabarrancas, Lagarto-Cochas, and Tagsha-Curarais. Most of these, however (indeed all excepting the first five enumerated), are quite unknown, having been met with only on rare occasions by traders and travellers; and it is more than probable that many of the above names refer actually to the same tribes, and are really only designations of locality, as may be inferred from their meaning. This is especially the case with those who occupy territories in close proximity to one another; for there seems no reason to believe that so many quite different tribes should exist within such limited boundaries as their names would imply. However, I give the names as they are currently adopted by the Indians, Záparos, and traders on the Napo itself.

[1] Mr. Hore has since informed me that the Tanganyika rafts are heavy clumsy structures, that can only be pushed slowly, and are used to throw nets from, whereas the Madras catamarans are light and buoyant, and can be propelled and worked with extraordinary celerity.—M. J. W.

It is probable that the Cotos and Tutapishcus are merely parts of one tribe, as are also the various distinct hordes of Orejoues (big-eared) of the Putumayo; while the Anhishiris, Intillamas, Meguanas, Payaguas, Cauranos, Pucabarrancas, Tagsha-Curarais and Lagarto-Cochas are likely to be intimately connected with the better known tribe called "Iquitos." The Piojés, or Santa Marias, also called by one or two travellers Eucabellados and Tarapotos, I have no hesitation, from their language and habits, in pronouncing as belonging to the same tribe as the Piojés of the Putumayo and Macaguàjes of the Cocaya.

Much remains to be learnt about all these tribes, and they present a most interesting field for investigation. All we know of them at present is that almost all the latter ones enumerated, on the Napo, are dangerous and barbarous, many with whom they have came into contact having failed to get away with their lives, as the names of several places on the river testify, the designations of such spots having originated from onslaughts and massacres, mostly of the Anhishiris, perpetrated upon passing travellers and neighbouring peaceful tribes. The present generation has probably to thank the early Portuguese adventurers for these hostilities.

In this paper I intend to treat only of the "Indians," not of the "Infidels"; and to avoid confusion, it must be borne in mind that whilst in the Provincia del Oriente of Ecuador, I shall—to use its technicality—when speaking of the non-salt-eating, uncatechised tribes, call them *Infieles* or *Ancas;* and when "*Indians*" are mentioned, the name must be taken to refer only to the Quíchua-speaking, semi-Christianised peoples who formed that portion of the once great Inca nation annexed by the marriage of Huayua-Capac with the Scyri Princess Pacha.

The "Indians" of the Oriente occupy, besides Canelos, Sarayacu on the Bobonaza, and the upper Curarai village (which settlements can hardly be classed with the *bonâ-fide* Napo Indians, as they contain a considerable Infidel element), the entire Ecuatorian territory, from the higher eastern slope of the left bank of the Napo, down to the Coca. Their only settlements on the right bank are the small villages of Coca, a little below the mouth of the river of that name, and an unimportant and recently established village at the desembouchure of the Curarai.

On the north-east bank are the villages of Napo, Aguano, Santa Rosa, and Suno; and inland, the larger ones of Archidona, San José, Avila, besides Baeza, Papallacta, Tena, Loreto, Concepcion, Payamino and Cotapino. The Concepcion men are generally finer, taller, and more massive than the others.

The dress of the Indian usually consists of short, close-fitting drawers, and sometimes a "poncho" of "lienzo," the common raw cotton cloth made by the Indians of the highlands.

The women use a piece of the same cloth wrapped round their loins, reaching to the knee, and a jacket or shirt barely long enough to join the lower garment. The cloth is generally dyed by themselves a dark dull claret colour, but also, occasionally, with the wild indigo, blue. Ornaments of feathers, nuts, beads, teeth, &c., are worn besides, *ad libitum*, especially on festive occasions; and for attending "church" some of the men have a pair of trousers. Bracelets and armlets of iguana skin are much affected, as in some parts of Central America, with the same association of their imparting bravery and pugnacity to the wearer.

For warfare, these Indians keep no arms; but for hunting they use the "*bodoquera*" and lance; and though timid towards man, show no fear of animals. The making of the "bodoquera," or blow-gun, is a work of great patience and merit. A good piece of "chonto" palm, the hardest palm found in the country, is selected and a groove cut into it with a knife, to the length of about seven to nine feet. This groove is then scraped and rubbed with sand, finer and finer, until it assumes perfect smoothness. Another half-tube, exactly similar, is made; and the two are then bound together with wax and fibre, the result being a long heavy pipe with a bore about three-eighths of an inch in diameter, which upon examination proves to be almost as true and polished as a gun-barrel. Through this the insignificant though deadly little poison-tipped darts are blown with unerring precision, conveying silent and sure death to their mark.

Though nominally Christians, these simple, inoffensive Indians attribute many of their ills to the puffing of invisible darts into their bodies by evil, designing persons, an idea no doubt suggested by the mysterious and silent operation of their own instruments of offence: animals struck with the poisoned dart frequently hardly notice the small puncture. As evil influences may be blown in, so, they imagine, they may also be blown or sucked out of the body; as also that rain and storms may be blown away.

One of them, who travelled with me for a couple of weeks, during very stormy weather, thought he might succeed in decreasing the tempest by blowing, which he did to his utmost strength. Unfortunately the squalls increased, and I derided his proceeding, which seemed to give birth within his mind to some doubts as to the efficacy of blowing, and a consciousness of its absurdity. May not our "whistling for wind" be a remnant of some such analogous superstition?

Weddings are celebrated by three days' festivity, which consists principally in chicha drinking, with singing, dancing, and music kept up incessantly day and night.

The chief instruments are the drum, similar to that used in Canelos, and a fiddle, hollowed out of a single block of wood and doubtless originally copied from the Spaniards. It is almost needless to say that the music has neither melody nor harmony, save that of excruciating the ear with its discordant and meaningless thumps and howls.

The burial of the dead is usually effected in the floor of the dwellings; and often the remains of beloved children or other relatives are disinterred when in a horrible state of decomposition, so that they may again be bewailed and mourned over. This had been the case shortly before my arrival at Aguano in the very hut I appropriated.

The deceased Indian is usually buried in his canoe, or in a length cut from it sufficient for the purpose, dressed in his best, and with a supply of chicha and other food to stave off any pangs of *post-mortem* hunger, that may, according to their views, overtake the corpse. Occasionally a wife may be seen at her dying husband's side making a pair of new trousers for him to make his appearance in the next world in.

Marvellously dexterous and quick-sighted in the woods to our eyes, although much beneath any of the "Infieles" in this regard, these "Indians" are also clever canoemen and fishermen. Fishing is performed with hook and net, the latter being the more interesting. Several nets are taken, of about five feet in breadth by four or five yards long, and stretched across the mouth of any of the numerous creeks in the large sand or shingle banks, where the presence of fish is noticed; the upper edge of the net being naturally buoyed, and the lower sunk. As soon as this is adjusted and the exit of the creek quietly barred, two or three men beat the water and thus cause the fish to rush towards the net, where they are taken out of the water by hand and dexterously thrown ashore by those stationed along the net to catch them.

In this manner sometimes large numbers of fish are caught with remarkable rapidity.

Great difficulty has been experienced by the authorities and missionaries in getting the Indians to live permanently in villages, the only way by which education can be rendered effective among them. They have evidently not quite abandoned the more nomadic habits of the wilder tribes, and are always desirous of roaming; and for the least cause, abandon house and village at a moment's notice, moving family, bag and baggage, to another locality. This has always been the greatest obstacle

to the missionaries; and even now nearly all the Napo Indians have, besides their house in the village, and perhaps a small plantain and cassava plot in the neighbourhood, a plantation and shanty at least half-a-day's journey distant, hidden in the woods, where they frequently like to remain. Here they invite and see each other, but carefully keep out of the track of strangers. This is, however, not all; for most families have a third spot, unknown to any but the immediate family circle, and so hidden away that no track shows the way to it. It is in this secluded retreat that those who twist fibre and such work, in which there is some trade with Quito, execute their labours; and, I am informed, there economise clothing by dispensing with it altogether. This is easy to comprehend, for clothing with all savages is primarily looked upon as mere embellishment, though Indians, who have frequent communication with more civilised men, begin to show some shame when entirely nude.

The Napo "Indians" are very jealous of their women and dislike extremely to see them in any communication with "*Viracuchas*," the name prophetically given by the Inca Viracucha to the coming conquerors, and still retained and habitually used towards all white men. The men try to make their women believe various false reports unfavourable to the whites so as to induce them to hold themselves aloof from the objects of their jealousy, and more than one of the fair sex were beaten for looking too intently at us on our arrival at Aguano.

Among the most important events disturbing the usual routine of village life, are the voyages to the Huallága for salt and poison from the Marañon. These are commenced about the end of June or beginning of July, and the salt mines of Chasuta are reached by about the end of August, so that the salt may be excavated from the river bed, and the return journey effected before the waters of the Huallága begin to rise, towards the end of September. The season of floods on the Huallága and Ucáyali seems to correspond to the season of lighter currents on the Napo, which favour the up-stream journey—or rather, perhaps, render it practicable—and enable the salt collectors to complete their tedious journey by November. It would be difficult to describe the terrible toils of this journey, lasting from five to six months. Paddling down stream is comparatively easy work; but punting up against the strong currents of the Marañon and Huallága, cutting out the blocks of rock-salt without adequate implements, and then poling the heavily-laden canoes up the Napo, are labours which only an Indian could endure. From early morn till dark these men stand at their poles, two, three, or four in the bow of the canoe, according to its size, straining every muscle to force the heavy craft against

the unyielding current, winding along the shallower banks where their "palancas" find bottom, and only varying the exercise at a steep bank with too strong a current to stem, to drop the poles and vigorously ply the paddles until the other side of the river is reached, and punting again resumed. These crossings are frequently very trying, and mostly so on the Marañon, or wherever they are very broad; for the rowers dare not stop to get breath, but have to ply and ply in desperation, often to see their unwieldy deeply-laden craft carried back in crossing as much as they had gained in a full half-day's hard and weary toil. At the long "*Chimbadas*," as they are called on the Napo, the men frequently reach the opposite bank utterly exhausted for a short time. During these journeys their hands and feet get covered to an extraordinary thickness with horny skin, such as I have never seen before, which sometimes splits in huge gashes from the excess of strain put upon it, causing torture to the sufferer who still has to labour on. The food on the voyage consists principally of chicha, of which a large supply is taken in baskets, having first been enveloped in plantain leaves. A portion of this is buried on the way, for use on the return journey, when the chicha is dug out of its hiding-place only too often to be found in a state of decomposition, like some of our far-gone Stilton cheeses; nevertheless, the food, as with us, is not disdained on that account. In the one case, however, our feelings are of repulsion, but in the other of fondness for the musty, decomposing cheese. Such is the perfect balance of the unprejudiced and civilised sense.

And what do these toilers get for their labour, endurance, and privation, unceasing for a period of six months? Thirty or thirty-five varas of common lienzo is the current payment for each man, when the journey is made on account of a trader or missionary. The cloth being worth $1\frac{1}{2}$ reales, or six pence, a yard, the total payment comes to less than 18 shillings. Out of the 30 yards of cloth, moreover, the recipient generally makes $2\frac{1}{2}$ yards into a poncho, $1\frac{1}{2}$ into a pair of drawers, 6 into a "toldo" to protect him from the voracious mosquitos of the Marañon; the remainder probably goes to wife and children; and thus the earnings are employed, and often worn out, before the journey is completed.

At starting and arriving, festivities of the usual class, in which chicha drinking constitutes the main feature, are carried on; and the travellers shove off their canoes in setting out, and hail their friends as they heave in sight on returning, to the sound of the cattle horns procured from the Marañon, and upon which they blow. Were the journey commenced or completed without the "*bobona*," the travellers would cut but a sorry figure, and, to

say the least, pass among their friends as unsophisticated greenhorns, destitute of the noblest attributes of a great traveller. Most of them would rather suffer anything than return to the native village unannounced by the "*bobona*."

Besides the never-failing chicha, made from the Cassava root, as elsewhere described, the Napo Indians employ an ingenious method of mounting a still for the distillation of spirit from plantains. One of their largest-sized earthen pots, containing very ripe plantains, boiled and mashed, and in which fermentation has gone on for a short time, is placed over the fire, upon the regulation three stones. Over this pot is placed a similar one, only with a narrower neck, and its bottom knocked out, and on this another still smaller, likewise without bottom; but with, further, a hole in its side through which a bamboo tube is inserted. The third and uppermost pot has then a fourth placed in its mouth, and the steam rising through the tier is condensed on the under surface of the top vessel, which is constantly having cold water poured into it in exchange for the warmer water that is removed. Then, as the bottom of the cooler converges to a point, as do all their cooking vessels, the drops condensed upon its under side trickle down to the centre and lowest extremity, and, falling into the bamboo tube, are conveyed to a receptacle outside, where rarely more than a few drops are allowed to collect before they are transferred to the lips anxiously awaiting them. Of course the distillation is made at a low temperature, and all the cracks in the apparatus are stopped up with fine clay.

Notwithstanding these and other proofs of intelligence and steps towards advancement, mental capacity is very weak and vague. One of the missionaries informed me that some Indians, who had been sent by him to Quito, were despatched thence again with edibles and a letter for him. When they arrived, according to the letter, he found a great portion of the provisions missing, and forthwith accused the carriers with having appropriated them. They were very much astonished that he should know from the letter what they had done on the way, and confessed the theft, saying that no doubt the letter must have seen them after all, though they had carefully covered it up in a hole with leaves, whilst they were eating the provisions; they now thought, however, that it must have seen them through the interstices. To them it seemed very natural that an object that could speak to the *padre* and relate what they had done on the road, should also be able to see what had passed.

NOTE *on a* PATAGONIAN SKULL.

By G. W. BLOXAM, M.A., F.L.S.

THE Assistant-Secretary exhibited the skull of an Indian, presented to the Institute by Captain Edward Hairby, of the mail steamer "Maskelyne," who obtained it from a modern Indian burying-ground at Carmen, at the mouth of the Rio Negro, south-east coast of South America, and in latitude 44° south.

The circumference of the cranium is 500 mm.; the length is 163 mm., and the breadth is 151 mm.; the high index 936, resulting from these measurements, being due in some degree to the fact that the shape of the skull has been modified by occipital pressure. The height is 148, and this, compared with the length, gives an index of 908. The length from basion to nasion is 100, and the basialveolar length is 98, giving an alveolar index of 980. The skull is platyrhine, the nasal index being 583. The orbital index is 850, and the face is generally of a somewhat Mongolian type. The facial angle is 65°. The skull is apparently that of a male, and the capacity is fairly large (1,434 c.c., or 87·5 cubic inches), although less than the average of the male Patagonian skulls in the Museum of the Royal College of Surgeons. The incisor teeth are very small, and all the teeth that remain are in good condition and show no signs of caries.

DISCUSSION.

Dr. GARSON remarked that any addition to the osteology of so interesting a race of people as the Patagonians was very acceptable, since the material available for the purpose of determining their physical characters and affinities is, unfortunately, still very limited. The native inhabitants of America, though now generally regarded as belonging to a single race, present considerable varieties in their physical characters. Thus in Patagonia there have been found dolichocephalic skulls, while the inhabitants, as known generally to us, are brachycephalic. Again, the Patagonians are the tallest race in the world, averaging from 1·780 to 1·830 metres in height, with fairly large heads, while their neighbours, the Peruvians, are a small race with small skulls, so like, in general form, to those of the Patagonians as to be almost undistinguishable. To investigate accurately the characters of each of these races or sub-races, and if possible to define the differences between them, a considerable quantity of material is required. The skull exhibited by Mr. Bloxam appeared to agree in the main very closely with the male skulls from Patagonia in the Museum of the Royal College of Surgeons, in regard to its general characters, though in a few particulars it seemed to differ somewhat. It agreed in having a considerable

palato maxillary breadth; deep prominent malars, artificial occipital flattening and well marked Mongolian affinities. The orbits are somewhat less rounded, and the supercilliary ridges not so well developed as they usually are. The nose is considerably broader than usual, and there is not the lateral compression and hollowing of the nasal bones at their upper, nor the marked projection at the lower ends so common in skulls from all parts of the American continent, and present in the Patagonian skulls in the college collection. It must be understood that the differences just mentioned are stated only from mental and not from actual comparison of the skulls.

Professor G. D. THANE also offered some remarks on the specimen.

FEBRUARY 21ST, 1882.

EDWARD B. TYLOR, Esq., D.C.L., F.R.S., *Vice-President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The election of W. CROWDER, Esq., was announced

The following list of presents was read, and thanks voted to the respective donors :—

FOR THE LIBRARY.

From the AUTHOR.—Sieben Jahre in Süd Afrika. Lief. 13. By Dr. Hölub.

From the ACADEMY.—Atti della R. Accademia dei Lincei. Vol. VI, Fas. 5, 1882.

—— Bulletin de l'Académie Impériale des Sciences de St. Pétersbourg. Tom. XXVII, No. 4.

From the SOCIETY.—Scientific Proceedings of the Royal Dublin Society. Vol. II, Part 7; Vol. III, Parts 1–4.

—— Scientific Transactions of the Royal Dublin Society. Vol. I, Series 2, Nov., 1880—April, 1881.

—— Proceedings of the Royal Society. No. 217.

—— Journal of the Society of Arts. Nos. 1525, 1526.

—— Boletim da Sociedade de Geographia de Mocambique. Nov., 1881.

—— Boletim da Sociedade de Geographia de Lisboa. 2a Serie, Nos. 7, 8.

—— Bulletins de la Société d'Anthropologie de Paris. Mai à Août, 1881.

From the EDITOR.—"Nature." Nos. 641, 642.

—— Revue Scientifique. Tom. XXIX, Nos. 6, 7.

—— Bulletino di Paletnologia Italiana, 1881. No. 12.

The following paper was read by the Director :—

From MOTHER-RIGHT *to* FATHER-RIGHT.

By A. W. HOWITT, F.G.S., and the Rev. LORIMER FISON, M.A.

THREE statements may be made without fear of contradiction concerning the line of descent among savage and barbaric tribes of the present day:

1. That many tribes reckon descent through females, while many others reckon it through males.

2. That of the latter class most if not all bear evident traces of the former regulation.

3. That in all tribes in which traces appear, uterine descent preceded descent through males.

The wider conclusion that all now existing races have passed through the same experience is open to controversy; and though perhaps a strong probability in its favour may be shown, it may be held as doubtful whether it can ever be established as an absolute certainty. Be this as it may, there is a question of scarcely inferior interest to which we may address ourselves with a good hope of success. How was the change of descent effected in those tribes of the present day who are known to have made the change, and what were the causes of the movement?

From what we know of savage tribes, and especially of their reverential obedience to the "customary law," it may be safely asserted that no such movement could be the result of mere caprice. For such a result there must have been an adequate cause, and for such a cause there must have been a sufficient motive.

Supposing a tribe to have descent through females, we can imagine two probable causes of change to the other line of descent—firstly, external impulse, and secondly, a change of circumstances within the tribe, such as would compel the adoption of new arrangements.

External impulse resulting from the coming in from without of a tribe having the more advanced system and the amalgamation of the two tribes by intermarriage, might have this effect. This can be shown to have occurred in some instances, but it does not solve the present question, because the incoming tribe itself may bear evident traces of former uterine succession, and so present the old question for solution. Even if such traces are not to be observed, we cannot accept external impulse as the

sole primary cause of the movement, unless we take for granted that the immigrants never reckoned descent otherwise than through males, an assumption which cannot be proved.

As far, therefore, as our present purpose is concerned, external impulse of this kind may be set aside. It may have effected the change in particular instances, but it does not effect a solution of the general question.

The second cause advanced (a change of circumstances within the tribe compelling new arrangements) can be shown to have been active and effectual, but the question still remains, "What disturbing element was it that arose within the tribe, upsetting the old regulations, and how did it arise?"

The process under which the change of circumstances was effected may be classed under two heads—(1) orderly movements, (2) disorderly movements. By orderly movements is meant a gradual and peaceful change, resulting from the rise and growth of new ideas accepted by the whole community. By disorderly movement is meant a rebellion against law (*i.e.*, custom) successfully establishing itself and working out its own results: or the enforced segregation of a part of the tribe, resulting in circumstances under which the old regulations can no longer be obeyed.

The working of what we have called orderly movements is plainly seen among agricultural tribes. As long as a tribe of savages continues to be mere hunters and nomadic within certain boundaries which limit the tribal territory, uterine succession works smoothly enough. The entire domain is a hunting-ground common to the tribe, and there is nothing to call for its parcelling out among the tribal subdivisions into which it has broken up by force of its own expansion. It is not asserted that no such tribes reckon descent through males. On the contrary, not a few within our knowledge have this line of descent. Our contention is, that if a savage tribe have uterine succession the ancient rule is not likely to be disturbed by disputes among the tribal divisions as to land inheritance. Say, for instance, that a tribe of hunting savages is divided into two exogamous intermarrying classes called respectively A and B. The members of A and of B are distributed over the whole tribal territory, and collectively form the tribe. It is manifest that with exogamous marriage and uterine descent the children of A fathers are B, and the children of B fathers are A. Consequently, where any form of actual inheritance of the land exists, the son cannot inherit from the father, because father and son cannot be of the same class division. The inheritance must go to the sister's son. This arrangement, however, causes no trouble as to land, for the hunting-grounds are common to the whole com-

munity. Among such tribes the real property is in the game on the land rather than in the land itself.[1]

But if such a tribe settles down to agriculture, uterine succession soon becomes extremely inconvenient. Property does not now consist in game which roams over the entire common territory. It consists chiefly in agricultural produce grown in particular localities. Residence becomes fixed, the tribe which formerly migrated, either as a whole, or in parts, from one place to another of the common hunting-grounds, dwelling in mere temporary huts, now takes to living in villages which have to be fortified against invaders; and since invasion has to be continually guarded against, the lands in the neighbourhood of the stronghold are the most highly valued. It is dangerous to farm at a distance; thus the valuable land becomes limited in extent, and a fertile plot is a valuable possession, and the tendency is to the division and subdivision of the planting-grounds. Moreover, residence being fixed, it becomes worth while to build more or less substantial houses instead of mere temporary huts, which served the nomad hunters, and to accumulate articles of use and value far more numerous than they could previously afford to encumber themselves with. Under these circumstances we find a growing disinclination on the part of the heirs of a man's body to surrender the inheritance to his sister's children, which, as already pointed out, is the necessary arrangement under uterine succession. Thus in some agricultural tribes who still retain that line of descent, the agnates redeem the inheritance by payment to the sister's children; other tribes meet the difficulty in other ways, so as to enable the son to take his father's land, and it may be laid down as a general rule that when property becomes fixed and localised, the tendency is to inheritance from father to son,[2] or at least to inheritance by a group of agnates, and ultimately to the abandonment of uterine succession.

This, however, cannot be the only cause of change in the line of descent among tribes who are known to have advanced from uterine succession to descent through males, for were it so, we

[1] So also among pastoral tribes the property is in the stock rather than in the land. Thus Sir Henry Maine remarks concerning the Saer and Daer tenancy: "The rent . . . did not in its earliest form correspond in any way to the value of the tenant's land, but solely to the value of the chief's property (cattle) deposited with the tenant" ("Early Institutions," p. 160). The Irish peasantry at the present day estimate land not by acreage, but by "cows' grass": so many cows' grass is so much land, while a "goat's grass" is a contemptuous expression for a small or barren tract.

[2] Even among hunting tribes we find this tendency with regard to property which is localised. Thus the eggs of wild fowl (*e.g.*, swans), in well known breeding places, are claimed by certain families of the Gippsland Kürnai, and even by a few individuals, to the exclusion of the rest of the community.

should find the change effected by those tribes only who have taken to agriculture and settled habitations. But this is not the case. In Australia, for instance, we find side by side with tribes who retain uterine succession, other tribes who are still nomad hunters, ignorant of agriculture, but who reckon descent through males. The supposition that they may have always followed this arrangement is negatived by the fact that they bear numerous and unmistakable traces of the former prevalence of uterine succession among them. Here then we have hunting tribes differing from their neighbours no otherwise than in the fact that they have adopted the higher line of descent and certain modifications of the intersexual relations consequent upon their change of circumstances, and we have now to inquire how that change was effected.

The Australian tribe (or community) presents itself under two aspects, and it is very necessary to see clearly, and to keep well in view, the distinction between them. We may view the tribe as a whole made up of certain exogamous intermarrying classes, or we may study it as a whole made up of certain local divisions, each of which may contain members of all classes aforesaid. The former may be called its social aspect, the latter we may speak of as its local and physical aspect. The two are co-existent and conterminous; they cover and inter-penetrate each other, and yet the classes of the one are distinct from the divisions of the other, excepting in rare cases to be mentioned by-and-by, and are subject to quite different organic laws.

Let us for the sake of convenience call the former the *social* organisation of the tribe, and the latter its *local* organisation. Let us also (for convenience of distinction) call the subdivisions of the former *classes*, and those of the latter *clans*.

Social organisation.—The tribe is generally divided into two or more exogamous intermarrying classes distinguished by titles (badges) which are certainly in some cases, possibly in all, the names of animals. As a general rule each class is again divided into smaller segments also distinguished by animal names.[1] These we may call *totems*, since the more convenient term *gens* is forbidden to us. The individuals bearing these names are scattered throughout the whole tribe, and the classes and totems have perpetual succession through the women who transmit their class and totemic names to their children. This is the

[1] But in some tribes the names are such as the following:—Būnjil = the star *α* Aquilæ (Mūkjarawaint tribe, Western Victoria); Tallara = rain, (Dieri tribe, South Australia, according to the Rev. H. Vogelsang); Uberū = gidea-tree (Wakelbūra tribe, Belyando river, Queensland, according to Mr. J. C. Muirhead, Elgin Downs). The star *α* Aquilæ was pointed out to me as Būnjil; I observe that Mr. Dawson gives it as Fomelhaut ("Australian Aborigines," p 100)

case where uterine succession prevails; it will be seen, by-and-by, that there are also tribes in whose social organisation the classes and totems are perpetuated through the men, who in these cases transmit their class and totemic names to their children.

Local organisation.—The tribe is also made up of a number of clans or local groups, each of which has a local position in some part of the tribal territory. Its name is usually derived from the locality it occupies, or from certain qualities attributed to it. It has perpetual succession through the males, who hunt over the same tracts of country over which their fathers hunted before them. Its daughters have to become the wives of men belonging to other clans, whose sisters, in turn, come to it as wives. The name of the clan does not change with the successive generations, being in most cases local, but there are instances where being named, as in three of the Gippsland clans, after prominent men, a change would take place when these died, while in the other cases no change would take place unless the name of the locality became altered, or unless the clan changed its location. Such an instance has been mentioned to me by Mr. J. C. Muirhead, of Elgin Downs, in Queensland, where one of the tribal groups changed its location, abandoned its former name, Dūringbŭra, and in its new territory assumed the name of Wandalibŭra from Wandali, meaning to *leave* or to *throw away*.

Each clan is made up of individuals of many or of all the classes and totems; hence, while the clan has perpetual succession through males, and its local name remains constantly the same, the class and totem names of its members, being transmitted through females, change with each generation. In other words, the sons occupy their fathers' hunting-grounds, but they inherit their mothers' names, and therewith the right to certain women for wives—if they can get them.

Thus we see that the social organisation permeates the local. It rules in many cases the assemblies and ceremonial of the tribe; it regulates marriage, descent, and relationship; it orders blood-feud, it prescribes the rites of hospitality, and it even determines the sides to be taken at the ball-play. Nevertheless, the tendency of the local organisation is directly hostile to the social—that is to say, it tends to modification and to change of its rules. It tends to create local interests which may clash with the general, it facilitates separation, and we shall see that in the end it becomes paramount, discarding uterine succession and establishing itself as the local clan with descent through the father, and even perhaps with hereditary chieftainship.[1]

[1] The presence of hereditary chieftainship, in a few tribes, is affirmed by

The distinction between the social organisation and the local is clearly seen when we compare a number of instances, and their differences point very significantly to changes which have been brought about by some cause or other in both organisations. This may be shown by comparing the two extremes of a series of tribes arranged in the subjoined tables. The type nearest to the divided commune with which we are acquainted, is that of which the Kūnandabŭri tribe may be taken as an instance.[1]

As a tribe, the Kūnandabŭri occupied a certain tract of country which was portioned out among its various clans. The authority of the tribe was in the hands of the elder men. What this authority may have amounted to we may fairly conjecture from the known case of a neighbouring and kindred tribe, the Dieri, whose elders ordered the times at which the tribal ceremonies were to be held, and at which certain periodical expeditions should start to the south for red ochre and slabs of freestone, used for grinding seeds, and to the north-west for the narcotic herb Pitcheri. They tried offences against tribal custom, and even, if requisite, ordered the death of the offender at the hands of an armed party (Pinya) selected for the purpose. But as far as we have been able to ascertain, they had no recognised headman or chief.

The tribe, in its social organisation, was divided into two exogamous classes, Mattara and Yūngo. These were again divided into two groups of totems, and these totems had the names of animals. The law of marriage was that any totem of Mattara might marry with any totem of Yūngo, and *vice versâ*. In practice, the theoretical communal marriage of Mattara with Yūngo was thus modified: the parents say of a Mattara girl promised (betrothed her), while she was yet an infant, to some eligible Yūngo man outside of certain prohibited degrees.[2] When the girl became marriageable, her promised husband, accompanied by his Yūngo male contemporaries of his own totem, fetched her from her parents, and then and there the marriage was consummated, not by the husband, but by his confrères, the *jus primæ noctis* including all his totemic brethren.[3]

several of our correspondents; but further investigation is needed to make the matter fully clear.

[1] Informant, Mr. W. J. O'Donnell, of Cooper's Creek.

[2] Mr. O'Donnell tells us that among the Kūnandabŭri, as among other Australian and Fijian tribes, all actual first cousins, *according to our reckoning*, are excluded from intermarriage.

[3] Mr. O'Donnell even states that it included for several days all the males present in the camp, without exception "of class, totem, or kin." This is highly suggestive of a survival of ancient customs, but we have not yet been able to verify the statement by special inquiry, according to our rule of working. There is, however, no *à priori* improbability about it. It falls in with customs already ascertained by us in other Australian tribes, and in Fiji.

From this time forward the woman cohabited with the man to whom she had been betrothed, but, with his knowledge, she had also a number of accessory husbands, all of the same class as himself. As, therefore, each of these men was also a unit in other similar combinations, and as their wives were in like case, we have clearly before us the marriage of a group of Yūngo men to a group of Mattara women, and *vice versâ*, with habitual cohabitation of pairs of these men and women selected by betrothal. This custom still exists in parts of Australia besides the Cooper's Creek district, and is well known to the settlers, who call the accessory husbands "paramours."[1] Descent is here necessarily through the mothers.

Let us now compare with the Kūnandabŭri a tribe standing at the other and nearer end of the series. For this purpose we may take the Narrinyeri,[2] who live at the Murray river mouth, at the Lakes Alexandrina and Albert, and along the Coorong.

The Narrinyeri tribe was made up of a number of clans occupying defined localities. Each clan had a name, derived either from its locality or from some supposed qualities belonging to it. Authority in the tribe was in the hands of a council of elders, under the direction of an elected headman (Rūpū'li). This council summoned before it offenders, tried them, and inflicted upon them various degrees of punishment. The tribe was also divided in its social organisation into a number of totems, but it had not two primary classes like those of the Kūnandabŭri, nor were the totems otherwise divided into two distinct intermarrying groups. As a rule, each clan had its own totem or totems, but in rare cases the same totem was found in two different clans. Marriages within the totem and within the clan were forbidden. Women were bartered as wives by their male relatives for goods, such as skin rugs, weapons, &c., and a perpetual reproach lay against a woman if she went to her husband for nothing. Marriage was strictly of individual to individual, and the *jus primæ noctis* was only exercised in the rare cases of elopement where the parents' consent could not be obtained. In such cases it was exercised by the totemic brethren of the man. Descent was counted through the father only.

The contrast of these two tribes shows only a comparatively slight change in the local organisation, but a very great advance in the social. In the former the principal change has been in the direction of tribal government by an elected chieftain. In the latter there has been a complete advance from group marriage to individual marriage, with only a trace of the earlier

[1] Here we find the explanation of the so-called polyandry among the Nairs.
[2] Informants, Rev. E. Taplin and Mr. Frederick Taplin.

communal right[1] in the usage before noted as accompanying the rare cases of elopement. The two intermarrying classes have disappeared, and in their place the totems have not only acquired greater prominence, but have become organically changed. Under the influence of descent through the father they have become fixed and localised, for the sons not only perpetuate the local clan as before; they now perpetuate the totems also, taking their father's totem, and not their mother's, while their sisters go as wives to other local clans, but do not transmit their totem to their children. In short, mother-right has been supplanted by father-right.

It seems that under this change certain totems have died out. How this process of extinction has operated is not quite clear, but it is evident that when a tribe has adopted father-right and forbids its local clans to marry within themselves, a law which prevents marriage within the clan, no totem whose males have become extinct, either by war or natural decay, can ever revive.

Hence we may assume that the process has been one of "natural selection," with the ultimate result that each clan would come in the end to have one totem, and one only; in other words, the clan would become a localised totemic clan. This result would then have brought the Narrinyeri into the position of many other tribes which have clans with descent through the father and clansmen all of the same blood, and bearing the same "crest" or "badge."

In the annexed Table A are shown, in comparison, the main local and social characteristics of seven tribes, the two already described being at the extremes. The particulars shown may almost be said to be an epitome of the Australian tribal system.

In endeavouring to trace the causes which have produced the change of descent from the mother to the father, we must not overlook the facts that what we have called the local organisation has not altered materially, and that it is in the social organisation that the change has been effected. In the localised clans we have the germ of descent through the father, which only required some favourable and fostering influence to force it into growth, and as it grew, the idea of descent through the mother would wane. Such an influence would be supplied by the custom of betrothal, which is an evident modification of the full communal right, and the local organisation shows us how that custom may have arisen. The nature of the country is

[1] Mr. F. Taplin, the superintendent of the Point Macleay Mission, made further inquiries at our request. He says: "Youths of the Narrinyeri were not permitted to take a wife during the time of initiation or subsequent probation, but during the latter they were permitted complete license as regarded those of the other sex (unmarried) who were, not only such as they might lawfully marry, but even those of their own clan and totem."

such that any large permanent assembly is impossible, excepting in unusual circumstances of abundant food. In the usual condition of the country only comparatively few individuals wander in company. The man, by his physical superiority, is the protector of the females and the young children. He is the hunter and the warrior. The fact that his children do not bear his class name or his totem does not do away with the fact of his parental relation to them, and even in the tribes which have group marriage, he claims as his own the children of the woman with whom he habitually cohabits,[1] whence we see that even under group marriage the idea of individual right to children can exist. As the girls grow up, the man with whom their mother habitually lives, naturally claims a greater interest in them than can be claimed by the mere "accessory husbands," and it is only natural that he, together with their mother, should settle the difficult question as to whom out of all the "tribal husbands" they should be betrothed. In this matter self-interest would influence the decision, and the plain tendency would be to the establishment of individual marriage. In the Kŭnandabŭri tribe we see it partially established with preliminary "expiation," and subsequent assertion of the communal right on the part of the accessory husbands. But even this is a great step towards strictly individual marriage, the husband by betrothal being what we may call the special husband of the woman, and having an interest in her and her children greater than that which those others can have. We may reasonably suppose that the special husband's claim would grow stronger and stronger, that in the course of time the so-called "paramours" would disappear, and that the real husband would eventually insist—as we find to be the case in many tribes—on the strict fidelity of his wife to himself under severe penalties; and when this point is reached a change is effected in the conception of descent.

If we may judge from the case of the Narrinyeri, the change appears to have first affected the primary classes. But it seems to have followed two courses. With the Narrinyeri the two primary classes disappeared, but with the Kŭlin tribe of aborigines, who occupied the country surrounding Melbourne, it was the two primary classes which survived, while all the totems but one disappeared. These and other interesting particulars as to the class divisions and totems are shown in Table B. It is also important to note that the change of descent to the male line in the class divisions and totems is shown by the

[1] This has come under my own personal observation among the Cooper's Creek tribes, Dieri, Yantruwŭnta, &c.—A. W. H.

Tŭrra tribe, which has still the two primary classes, each with its group of totems, but all having paternal descent, though the marks of the older line are plainly visible upon them.

Hitherto we have been considering what may be called orderly movement, that is to say, not a sudden overturning of tribal law, but a gradual modification of it, arising out of the springing up and the growth of new ideas brought in by a gradual change of circumstances. But we have also to consider the possibility of breaches of the tribal law, and of a sudden change of circumstances necessarily resulting in change of organisation.

From what has been already advanced it is evident that anything which disturbs the social organisation tends to radical change, and there can be no complete showing of the probable causes of the change in the line of descents, without a consideration of those disturbing causes. Prominent among them is the custom of elopement, which has become so frequent as to have grown up into a custom of widespread prevalence; among the Gippsland Kŭrnai it is even the recognised form of marriage. There can be little doubt that the monopoly of the women by the older men, which is found in many tribes, has been a great stimulus to elopement, though perhaps not so effective in reality as it appears at first sight likely to be. For, as we have pointed out elsewhere, "the monopoly is an assertion of the old men of property in the women, not of exclusive marital rights over them. It claims the right of regulating their intercourse with the younger men who are their 'husbands' by hereditary status."

It seems clear that elopement must have been, in the first instance at least, a breach of the law: for if it were not so, why should the parties elope and why should their elopement be punished as an offence? Among the Kŭrnai elopement was the recognised and most frequent form of marriage, yet here both parties, if caught, were severely—the woman savagely—punished. Among their Eastern neighbours, the Yŭin, where marriage was arranged by the fathers of the parties, elopement of the girl with a preferred suitor was also severely punished—the man having to stand up in an arranged fight with clubs, until either he had been knocked down four times, when he was free, but lost the girl, or until he had knocked down all "her men" when he kept her. These instances refer to cases where there was not any disability to marry consequent upon nearness of degree of kindred or sameness of class. Many, probably most of the tribes, inflict a death penalty if the parties be of the forbidden degrees; while some others condone the offence, after inflicting cruel punishment. Is it then unreasonable to suppose that such condonation may have led to the establishment of a

precedent which would be followed in other cases, resulting in a modification of the intersexual law? This is no mere hypothesis. In one, at least, of the Kamilaroi tribes we find an evident innovation on the ancient marriage custom, now fully established as a law. The old rule is that no Ipai, for instance, can marry an Ipatha; that is to say, a woman of the class to which he himself belongs. But the Ipai class, having subdivided into smaller totemic subdivisions, Ipai now claims for himself the right of marrying an Ipatha who is of a totem other than his own. Many years ago the late Mr. T. E. Lance, of Bungawalbyn, suggested to the writers that this innovation probably resulted from "the rebellion of some powerful Ipai against the ancient law," and-subsequent investigation has gone far to confirm the surmise of that acute observer.[1] This innovation, however, makes no difference in the line of descent, the children of such marriage taking their mother's class name and totem, precisely as if their father had been Kūbi, that is a man of the class which marries the Ipathas. Hence, when the runaway couple return and submit to punishment, though the marriage law may become relaxed to a certain extent, it does not appear that the line of descent in that case would be affected.

But we have also to take into consideration the possibility of such a couple, or a number of such couples, successfully establishing themselves beyond the reach of their tribe, and forming a new community. It must be extremely difficult for a savage to free himself from the tribal obligations, and escape beyond the reach of the tribal vengeance; and yet there are instances within our knowledge where this has been successfully accomplished, even though a death penalty awaited the offenders, had their retreat been discovered by the infuriated tribe. Moreover, the difficulty here must have been considerably less in the early times, when the aborigines were gradually spreading themselves over the continent. In those days the runaways would have an open country before them, and would find the means of sustenance wherever game and water were to be procured. They would have no fear of hostile treatment as trespassers on the hunting-grounds of other tribes. Their only danger would be from the men of their own community, and there would be no obstacle in the way of their pressing onward from day to day, thus putting as wide a tract of country as possible between themselves and those that might pursue them.

The breaking-off of a fragment of a tribe might be effected in other ways; such as the expulsion of offenders by decision of

[1] To Mr Lance belongs the credit of discovering the four classes of the Kamilaroi. The Rev. Mr. Ridley himself acknowledged to us that his attention was first directed to them by Mr. Lance.

the tribal council, quarrels arising from the refusal of atonement for blood-shedding, a break-up of the tribe by hostile invasion, or any other cause which might result in the separation from the rest of the community of men belonging to the same class, and whenever this may have been effected, by whatsoever cause, whether by rebellion against the customary law, or by enforced separation, we have a set of circumstances under which the old law, underlying the entire social fabric, could no longer be obeyed.

Take, for instance, the case recorded by the Rev. George Taplin ("Aborigines of Australia," p. 60), of two Narrinyeri hunters, who with their wives and children "went off into the desert to the south-east of Wellington on the Murray river." They were not discovered by their tribe until they had grown old and decrepit, and their children had become men and women, "who had got used to their adopted country," and refused to return to the tribe. The Narrinyeri have descent through males; but let us suppose a similar case of secession from a tribe which has descent through females.

In this case, if the men belong to Class A their wives must belong to Class B, and with uterine succession all the children must be of the latter class. Hence, it is evident that the old law of exogamy must be disobeyed in the second generation, and uterine succession be at least partially discontinued. Such a case has been suggested by us as having been that of the Kŭrnai ancestors.[1] Further information which has since then been accumulated, but which is too extended for insertion in this paper, has greatly strengthened the hypothesis then put forward. It suggests that the Kŭrnai ancestors belonged to that great tribal group in Victoria whose men called themselves Kŭlin; that they were thrown into a set of conditions necessitating a departure from customary law; and that these conditions were brought about by their voluntary or involuntary separation from the parent tribe. It seems probable that the Kŭrnai ancestors were of a totem belonging to the class Bunjil (Eaglehawk), and that their wives were of a totem belonging to the class Waa (Crow). This exodus of the remnant or of part of the totem (Emu-wren) seems to have occurred before the Melbourne Kŭlin reached the complete stage of descent in the male line with local totem clans, which they had when extinguished by the whites, and before the partly agnatic, and partly uterine rule of descent had been reached, which is found among the Gippsland Kŭrnai. In other words, this exodus of the Emu-wren totem of the Eaglehawk class seems to have occurred when the parent community had

[1] "Kamilaroi and Kŭrnai," p. 295.

the social organisation of which the Kamilaroi class divisions are the type, and of which strong traces are apparent in the totems of another tribe kin to the Melbourne Kūlin, namely, the Mukjaranaint of the Wimmera district.

Thus it seems that, in certain cases, the change from mother-right to father-right may have been brought about not only by orderly processes, but also by the violent action of impulses within the community itself.

TABLE A.

THE TRIBE — LOCAL ORGANISATION.			THE COMMUNITY — SOCIAL ORGANISATION.						
Tribal Name.	Divided into	Authority by	Divided into	And having	With totems.	Marriage.	Usually by	Line of descent.	Example of Customs.
Wakelbura, Belyando river, Queensland.	Clans having local names.	Elder men.	Two primary classes.	Four subclasses.	Two sets of totems: (*a*) opossum, scrub turkey, &c. (*b*) carpet snake, emu, &c.	Group to group, *i.e.* habitual cohabitation of a pair, with "accessory husbands."	Betrothal of woman as an infant	Maternal	
Kŭnandaburi, Cooper's Creek, Queensland.	Clans having local names.	Elder men.	Two primary classes.	Nil	Two sets of totems: (*a*) opossum, &c (*b*) carpet snake, &c.	Group to group as above.	As above ...	Maternal ...	*Jus primæ noctis* to all males present without exception of class, totem, or kin.
Mŭkjarawaint, Wimmera river, Victoria.	Clans having local names.	Council of elder men, under elected headman.	Nil	Nil	One set of totems, also one totem for all males, and one totem for all females.	Individual to individual. Any totem may marry any other totem, but not within itself.	Consent of parents.	Maternal as to set of totem, but one totem is taken by boys, and the other totem by girls.	*Jus primæ noctis* only in cases of elopement to men of bridegoom's totem, or in war capture to those present.
Kurnai, (Kurnai = men), Gippsland, Victoria.	Clans having local names.	Elder men, headmen not elected.	Nil	Nil	One totem for all males. One totem for all females.	Strictly individual to individual.	Elopement, rarely by exchange of female relative.	Maternal for girls. Paternal for boys.	*Jus primæ noctis* to bridegroom's comrades in elopement, and in war capture to those present.

TABLE A—*continued.*

THE TRIBE.			THE COMMUNITY.						
LOCAL ORGANISATION.			SOCIAL ORGANISATION.						
Tribal name.	Divided into.	Authority by	Divided into	And having	With totems.	Marriage.	Usually by	Line of descent.	Example of Customs.
Tūrra, Yorks Peninsula, South Australia.	Clans	Elder men.	Too primary classes.	Sub-classes. Nil.	Two sets of totems (*a*) (*b*)	Individual to individual.	...	Paternal	On ceremonial occasions the men of the two classes temporarily exchange wives.
Narinyeri (Kornar = men, inyeri = belonging to), South Australia.	Clans having individual and local names.	Council of elder men, under elected headman.	Nil	Nil	A number of totems, usually one totem in each clan; exceptionally a totem in two clans.	Strictly individual to individual.	Purchase from parents for goods, *i.e.* skin rugs, weapons, &c.	Paternal	*Jus primæ noctis* only in cases of elopement to men of bridegroom's totem.
Kūlin (Kulin = men), Western port, Melbourne, Sombum river, Victoria.	Clans having local names.	Elder men, but headmen not elected.	Too primary classes.	Nil	One totem only, belonging to one of the two primary classes.	Individual to individual.	Gift by the woman's father.	Paternal	

TABLE B.

SOCIAL ORGANISATION OF THE COMMUNITY.

Wakelbŭra tribe, Belyandi River, Queensland.

Two primary classes.	Divided into	And having totems.	Line of descent.
Mallera ..	Kŭrgila ..	Opossum, scrub turkey, water	Female.
	Banbó ..	small honey-bee, kangaroo, &c.	
Wŭtarŭ ..	Wŭngŭ ..	Carpet-snake, gidea-tree, large	
	Obŭ ..	honey-bee, emu, black duck, &c.	

Kŭnandabŭri tribe, Cooper's Creek, Queensland.

Mattara	Not known	Opossum, brown snake, emu, frilled lizard, kangaroo rat, small bandicoot, bush rat, speckled brown snake.	Female.
Yŭngo	Not known	Kangaroo, carpet-snake, crow, frog, toad, rat, teal, dog, native companion, iguana, blue crane, &c.	

Mŭkjarawaint tribe, Wimmera, Western Victoria.

Nil ..	Nil ..	Bat, to which all males belong; small night jar, to which all females belong.	Male as to boys. Female as to girls.
		All the following having male and female members:— White cockatoo, black cockatoo, iguana, buff-coloured snake, crow, eagle-hawk, *a* Aquilæ native cat, black snake.	Female.

Kŭrnai tribe, Gippsland, Victoria.

Nil ..	Nil ..	Emu-wren, to which all males belong. Superb warbler, to which all females belong.	Male as to boys. Female as to girls.

Tŭrra tribe, Yorks Peninsula, South Australia.

Wietŭ (eagle-hawk.)	Not known	Wombat, wallaby, kangaroo, iguana, bandicoot, crow, emu, &c	Male line.
Mŭlta (seal) ..	Not known	Wild goose, butter-fish, mullet, schnapper, shark, salmon.	

Narrinyeri tribe, Murray mouth, South Australia.

Two primary classes.	Divided into	And having totems.	Line of Descent.
Nil ..	Nil	Black duck, black snipe, black swan, teal, leech, cat-fish, whip-snake, mullet, wild dog, mountain duck, kangaroo rat, butter-fish, coot, tern, bull ant, whale, pelican, musk duck, wattle gum.	Male line.

Kŭlin tribe, Victoria.

Waa (crow) ..	Nil	Nil	Male.
Bŭnjil (eagle-hawk)	Nil	Small hawk.	

NOTE.—We are indebted to the following correspondents for the above information :—
Wakelbŭra—Mr. J. C. Muirhead, Elgin Downs, Queensland.
Kŭnandabŭri—Mr. W. J. O'Donnell, Cooper's Creek, Queensland.
Tŭrra—Rev. Julius Kühn, Yorke Peninsula, South Australia.
Narrinyeri—Mr. F. Taplin, Port Macleay, South Australia.

The following paper was read by the author :—

ANALYSIS *of* RELATIONSHIPS *of* CONSANGUINITY *and* AFFINITY.

By A. MACFARLANE, M.A., D.Sc., F.R.S.E., Examiner in Mathematics in the University of Edinburgh.

[WITH PLATES II TO V.]

THE problem we have to consider may be described as how to develop a systematic notation capable of denoting any relationship of consanguinity or affinity. Such a notation, it is evident, will be able to serve as an instrument in further inquiries, and will bear a relation to the ordinary system of terms, the same as that which the notation of chemistry bears to the arbitrarily chosen names of substances. Like the chemist, we first analyse as much as is possible, then choose symbols for the elements resulting from our analysis, and express the compound ideas in terms of these fundamental

symbols. Further, a graphic method can be developed analogous to that used by the chemist.

In several papers recently published,[1] I have considered the problem from the purely mathematical point of view; at present, I wish to present the method, and some applications, in a simple, self-contained form. I was invited to undertake this task by the distinguished anthropologist, Dr. E. B. Tylor, in the hope that the method may prove of service in investigating certain problems of comparative jurisprudence.

I have found from my own course of study, and also from the nature of other notations which I have met with, that there is a tendency to stop the analysis before pushing it far enough. I refer specially to the ingenious notation of Mr. Francis Galton, as used by him in his work on "Hereditary Genius." For example, with a single symbol to denote such an idea as brother, it is impossible to build up a scientific notation; the idea must be resolved into its constituent ideas. At first,[2] I took for a basis the four ideas of son of a man, son of a woman, daughter of a man, daughter of a woman; next,[3] I found it more convenient to proceed with symbols denoting child of a man, and child of a woman; and, finally,[4] I found what I believe is the proper basis, namely, the separation of the idea of sex from the idea of descent.

There are two fundamental relationships of the highest generality, namely, *child* and *parent*, the one relationship being the reciprocal of the other. These can be combined so as to express any of the complex relationships; thus, grandchild is expressed by *child of child;* grand-parent by *parent of parent;* brother or sister by *child of parent;* and consort by *parent of child*. The two latter expressions are taken subject to a certain condition (*see* p. 48). In the same way, great grandchild is expressed by *child of child of child*, nephew or niece by *child of child of parent*, and so on.

For the sake of shortness, let c be used to denote child, p to denote parent, and let "of" be expressed by juxtaposition, then grandchild will be denoted by $c\,c$, brother or sister by $c\,p$, consort by $p\,c$, grandparent by $p\,p$. This method leads to an exhaustive and orderly notation for relationships, as will be seen by turning to Table I. It contains what may be called the general relationships of the first five orders. The order of a relationship is defined as depending upon the number

[1] "Proc. Roy. Soc., Edinb.," vol. x, p. 224; vol xi, pp. 5 and 162. "Phil. Mag," June 1881. "Educational Times," reprint vol. xxxvi.

[2] "Proc. Roy. Soc., Edinb.," vol. x, p. 224.

[3] Ibid., vol. xi, p. 6.

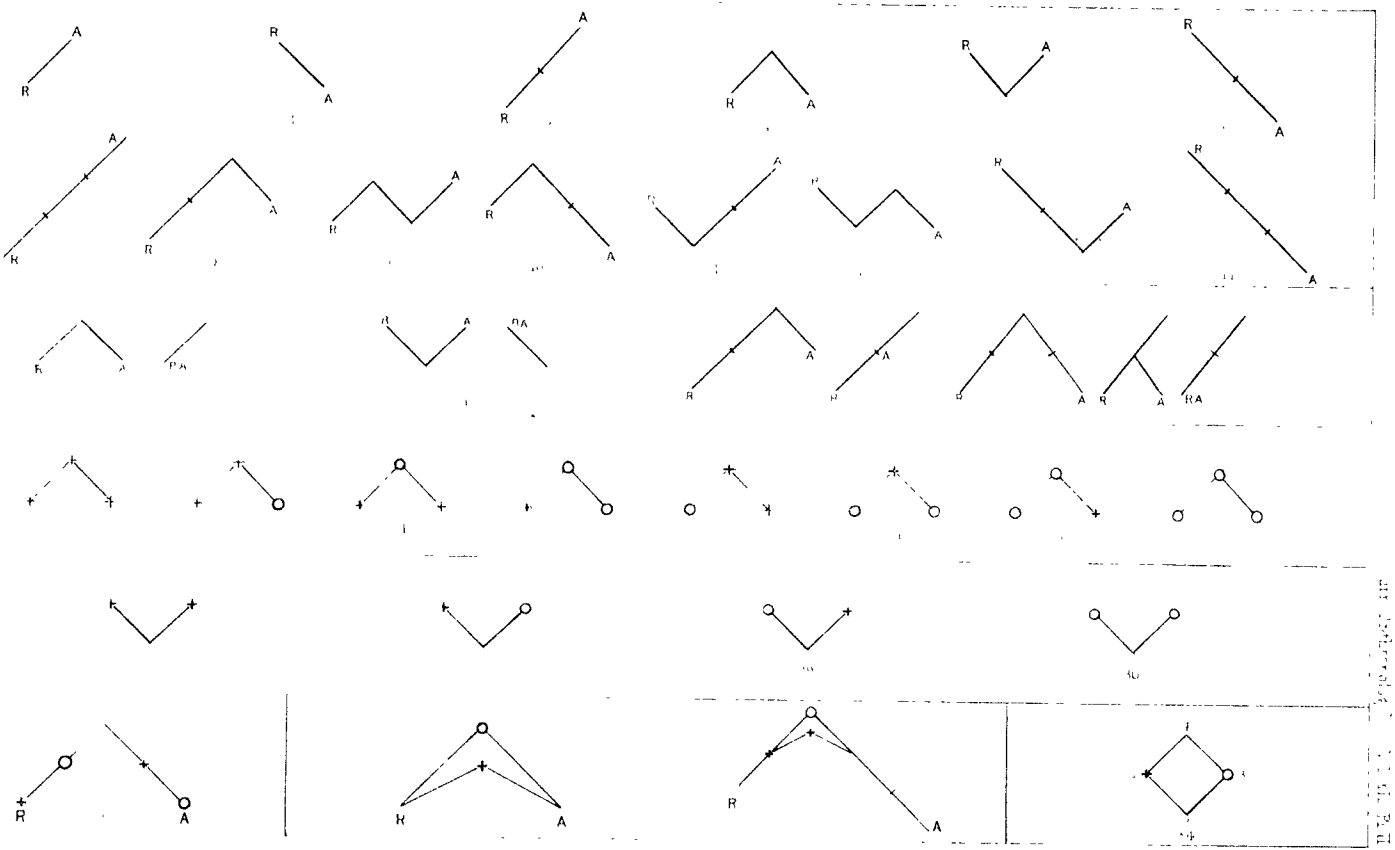
[4] Ibid., vol. xi, p. 162.

of letters, whether *c's* or *p's*, required to express it, and the relationships exhibited may be called *general* in contrast to the specific relationships into which they are broken up by the introduction of the distinction of sex. The relationships of any order are derived from those of the preceding order first by prefixing *c*, and secondly by prefixing *p*. The number of genera in the first order is 2, in the second 4, in the third 8, and so on, the number being doubled each time.

It will be convenient to have special terms to denote the person from whom a relationship is reckoned, the person to whom the relationship refers, and the persons through whom the relationship is traced. The two former may be called the extremes, and the others the intermediates. Of the extremes, the former may be called the origin, and will be denoted by *A*, while the latter may be called the relation, and will be denoted by *R*. The intermediates may be denoted by *B*, *C*, &c.

The relationship denoted by *c* will be graphically represented by a line drawn upwards, and, as far as is possible, of constant length; while that denoted by *p* will be represented by a line of equal length drawn downwards. The first fourteen relationships are represented on this method in figs. 1 to 14, Plate II. The line starting from *R* is drawn from left to right. There is always an intermediate at an angle; the presence of an intermediate on a straight line is indicated by a small transverse line; for example in fig. 3, Plate II.

In most cases, the genus relationship in the second column of Table I has two meanings, the one, its most general meaning (entered in the third column), the other a special meaning obtained by supposing the relationship to be irreducible (entered in the fourth column). For example, *c p A* denotes in general, *a child of a parent of A*, thus denoting the origin *A* as a particular case. Again, *p c A* denotes in general, *a parent of a child of A*, thus applying not only to a consort of *A*, but to the person *A*, him or herself. Similarly, *c c p A* denotes in general, *a child of a child of a parent of A*, thus applying as a singular case to a child of *A*. We may have reduction following reduction; for example, *c c p p A* denotes in general, *a grandchild of a grandparent of A*, which may reduce to a child of a parent of *A*, which may further reduce to *A*. Thus, a general relationship may reduce to one of a lower order, or to *self*; the irreducible meaning is obtained by supposing such singular cases of the general meaning to be excluded. The reducible relationships are those in which a change from *c* to *p* or from *p* to *c* occurs; hence, they include all the genera except the first and the last of each order. The two meanings are indicated graphically by supposing in the one case, that two



PL II FIGURES ILLUSTRATING THE GRAPHIC NOTATION

lines which can collapse may collapse, and in the other case, by supposing that such lines may not collapse. Figs. 15 to 18, Plate II, indicate graphically the examples considered above. It is evident that a relationship of an odd order can reduce only to one of an odd order, and a relationship of an even order only to one of an even order.

Regarding the use of the terms in the fourth column, it is necessary to make the following observations. By *brother* is meant what is usually denoted by half-brother, that is, son of the same father *or* son of the same mother. In accordance with this system, son of the same father *and* son of the same mother is considered as *two-fold* brother. To develop a complete scientific notation demands this view of the subject; for, consider the relationship of *first cousin*. In this country it may exist singly, or two-fold, or three-fold, or four-fold. We should then require to speak of cousin, three-quarters cousin, half cousin, quarter cousin. But, in addition to the awkwardness of employing fractions, there is this defect, that the four-fold limit depends, not upon biological but upon moral law. Hence for the purpose of an exact investigation, it is preferable to say cousin, two-fold cousin, three-fold cousin, four-fold cousin.

The expression *consort* may be taken in three different senses, according to the nature of the investigation; first, in the simple sense of co-parent of a child; secondly, in the sense of legitimate co-parent of a child; thirdly, in the sense of husband or wife, that is, legitimate, actual or potential, co-parent of a child. In what follows, the term is generally used in the last signification, but it may be used in either of the other significations should a particular investigation demand it.

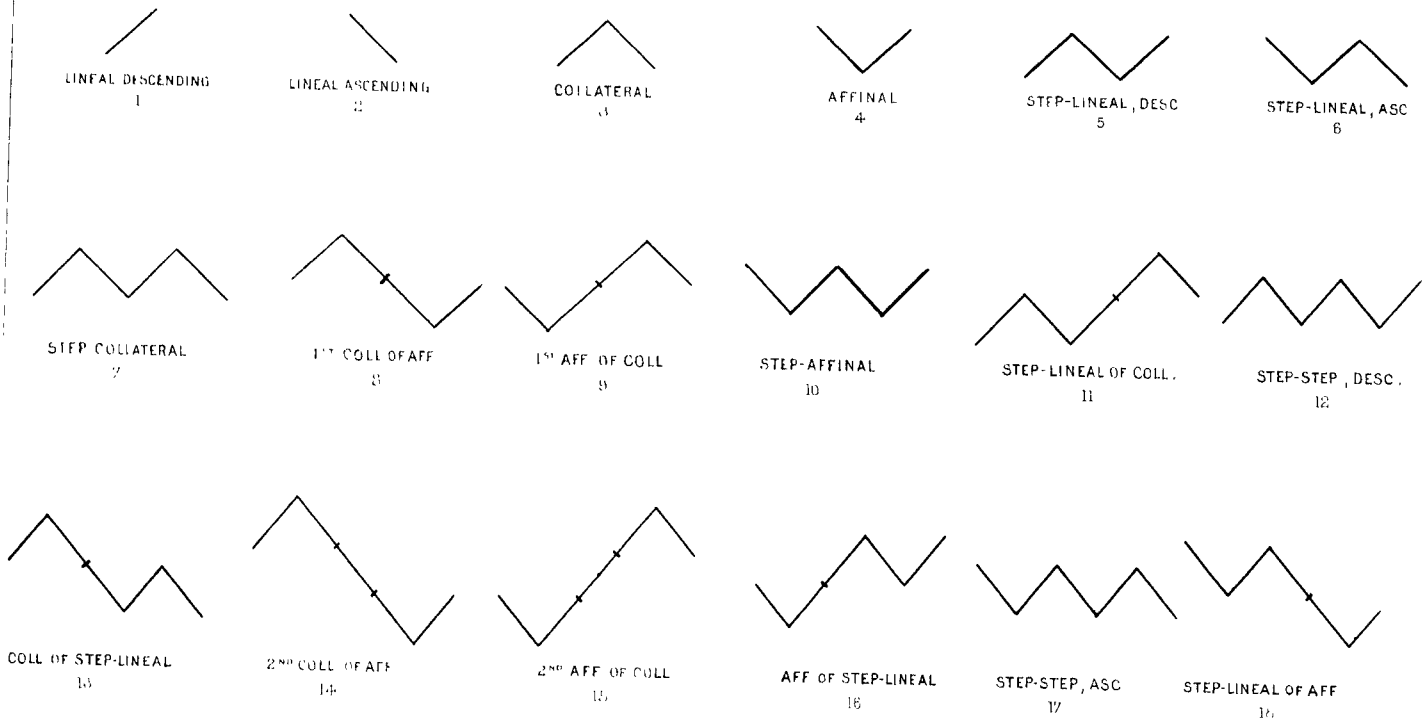
The term *step-child* is used in a sense which is probably more general than the sense ordinarily attached. Suppose that A marries B, and that they have a child X, and that B afterwards marries C, and that they have a child Y, then X would, in the ordinary acceptation of the term, be a step-child of C; but in a systematic nomenclature, it is convenient to extend the meaning of the term, so that it may apply equally to the relationship of Y to A. I use the term *step* in this extended sense throughout.

In the case of certain irreducible relationships, equivalent terms are, so far as I know, wanting in the English language. For example, $p\,c\,p\,c$, which from its analogy to $c\,p\,c\,p$ (step-brother or step-sister) I have ventured to express as *step-consort*; also $c\,p\,c\,p\,c$, which I have expressed as *step-step-child*. It will be observed that a special irreducible term is required for, and only for, each genus which has its letters arranged alternately.

Column fifth contains a classification of the genus relationships proceeding upon their characteristic parts. Suppose that from each relationship which has a combination of *c's* or of *p's* at its front, or at its end, all the letters of the combination are cut off excepting one, then, those relationships which leave the same remainder may be said to have the same *characteristic*. Such a group of relationships fall naturally into a class. The several characteristics to be met with in relationships occurring within the first five orders are exhibited on Plate III. Words are in common use to express the classes determined by the first three characteristics, namely, 1st descending lineal or descendant, 2nd ascending lineal or ancestor, and 3rd collateral; but there is, so far as I am aware, no single term to denote the fourth. It embraces all the ancestors of any consort of any descendant of self (including consort of self). As this group embraces the relationships by affinity in the strictest sense of the phrase, it may, for the sake of shortness, and to provide a means of developing a nomenclature for the more complex classes, be denoted by *affinal*.

Each class comprises a number of sub-classes (col. 6th), determined by the number of letters in the combination of *c's* (or *p's*) at the end of the relationship. If, further, the number of letters in the combination at the front of the relationship be specified (col. 7th), the genus is then wholly determined. This last entry has the best title to the denomination of the degree, but to avoid the use of that ambiguous word, I shall call it the *Number*. Not only is it only relationships of the same class, but it is only relationships of the same sub-class which can properly be compared as to degree. As it is, the degree is reckoned by different authorities in different ways. In the case of the first two classes, the lineal ascending and the lineal descending, there is no ambiguity; the degree coincides with the number of the table. In the case of the third class—the collateral—the degree of the civilians is equal to the sum of the sub-class and number, while that of the canonists is the greater of the two. In the case of the fourth class, there is room for still greater ambiguity, owing to the difficulty of reckoning the degree of $c\,p$, that is, of consort. The only unambiguous and perfectly general method, is first to specify the class, then the sub-class, and then the number.

In the eighth column I have entered the *Index* of the Relationship. It is obtained from the notation in the second column by counting the number of *c's* or the number of *p's* following one another, and writing the sum of the *c's* with a + sign before it, and the sum of the *p's* with a − sign before it. When the relationship is given to be irreducible, the



PL III CHARACTERISTICS OF THE CLASSES OCCURRING IN THE FIRST FIVE ORDERS.

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numbers in the index cannot in any case destroy one another. But, if the relationship is reducible, the reduction may take place in any way by which a positive 1 can destroy a neighbouring negative 1. A relationship, and the forms to which it can reduce, compose a class of relationships which naturally group together. It is evident that the class, sub-class, and number, may be read off from the index; and, were it not for the distinction of sex, which still requires to be symbolised, the index might be a sufficient notation.

The ninth column contains another classification—proceeding upon what may be called the *sign* of the relationships. The sign is determined by the first direction of the line, and by the subsequent number of changes; hence, it may be deduced from the index, by neglecting the numbers, and retaining only the several signs. The common property denoted by the sign + is descendant; by − ancestor; by + − descendant of ancestor; by − + ancestor of descendant. The irreducible meanings of the two latter are *collateral* and *affinal* respectively. So far this classification agrees with that in column fifth, but when we proceed to the next class + − + that is, descendant of ancestor of descendant, we find that it embraces several of the Classes, namely, step-lineal descending, 1st collateral of affinal, and 2nd collateral of affinal. Its irreducible meaning is any descendant of an affinal, not being, as such, a descendant of self. Similarly, − + − means ancestor of descendant of ancestor, its irreducible meaning being any ancestor of a collateral, not being, as such, an ancestor of self. The other signs may be read off in a similar manner.

In the last column there is entered the *interval*, by which is meant the number of generations separating the two extremes of the relationship. A cipher indicates that they are of the same generation; a number without a sign that the relation is younger than the origin by the given number of generations; and a number with the − sign, that the relation is older than the origin by the given number of generations. The value of the interval is deduced from the notation by summing up all the c's, and all the p's, and subtracting the latter sum from the former.

A very natural classification of the general relationships is formed by grouping together those having the same interval. The result is the systematic development of the idea involved in the Chinese grades. "All men who are born into the world," says a Chinese author, "have nine ranks of relations. My own generation is one grade, my father's is one, my grandfather's is one, that of my grandfather's father is one, and that of my grandfather's grandfather is one; thus above me are four grades: my

son's generation is one grade, my grandson's is one, that of my grandson's son is one, and that of my grandson's grandson is one; thus below me are four grades of relations: including myself in the estimate, there are in all nine grades. These are brethren, and though each grade belongs to a different house or family, yet they are all my relations, and these are called the nine grades of relations."[1] The relationships of the first five orders fall within the first eleven grades.

The classification by grade is capable of serving as a basis for a nomenclature. A common term is required to denote any general relationship falling into a given grade, and qualifying words or phrases to denote the several ways in which the relationship may pass from *self* or the grade 0, to the given grades. The nature of the connecting line corresponds to the "different house or family" mentioned above. For example, the first four general relationships ending in the grade 1 are child proper, nephew or niece, step-child, child-in-law. Here the idea of the grade, namely, child, enters into three of these English terms, and the genera are separated by adding on qualifying phrases. What more reasonable to expect, than that the second *genus* should also in some languages be named on the same principle? If we examine the terms for the relationships ending in grade 0, we shall find that they exhibit a similar tendency to group under a generalised idea of *brother* or *sister*, the principal exception being *consort*. In gesture language, however, consort is represented by the same sign as brother or sister, namely, by the two forefingers placed close to one another.[2] Any nomenclature built upon this basis is called by Morgan *classificatory*; but the distinction is very rough, for there is more or less of this kind of classification in every nomenclature. It is so natural that I had drawn it out before hearing of Morgan's classificatory systems.

Having classified the general relationships in various ways, I now proceed to divide them into species by the introduction of a notation for sex. Let m be used to denote *male*, and f to denote *female*; then as the adjective male or female may apply to each of the nouns child or parent, we may attach an m or an f to any letter in a general relationship. It is convenient to place the symbol of the adjective before the symbol of the noun to which it refers: thus $m\,c$ denotes son, $m\,c\,m\,c$ son of son, $m\,p$ father, and so on. Also as the origin of a relationship may be either man or woman, we may have an m or an f after the last c or p of the relationship; for example $m\,c\,m$ denotes son of a man, and $m\,c\,f$ son of a woman. A relationship which has

[1] Morgan's "Systems of Consanguinity and Affinity," p. 415.
[2] Tylor's "Early History of Mankind," p. 37.

neither m nor f at its end is applicable to any person independently of sex.

The symbols m and f are conveniently represented on a diagram by the marks × and o respectively. I find these marks so used in genealogical tables by Mr. Galton.[1] I used to employ a short transverse stroke, instead of the cross, but it is better to reserve the stroke for indicating the position of an intermediate person of either, or of indeterminate sex, in cases where it is not necessarily indicated by a corner (p. 48). This notation is exemplified in figs 19–26, Plate II, where we have the different species of brother or sister relationships indicated.

A general relationship is specialised as much as is possible with respect to sex, when it has a sex-symbol for either extreme, and for each of the intermediates. In Table II the general relationships of the first two orders are broken up into species of the kind referred to. The permutations of the sex-symbols m and f are formed in the same manner as those of the descent symbols c and p (p. 48), that is, by first taking m and f, then prefixing m before each of these, and also prefixing f, then by prefixing m and f severally before each of these four results, and so on. The manner in which the sex-symbols follow one another gives us the idea of *line*. To find the species into which the general relationships of a given order break up, all that we have to do is to write, as in Table II, the permutations of c and p, in a vertical column, and those of m and f in a horizontal row; then the result to be entered in a given place is determined by the row and the column which intersect in that place. The species in the second row of the second order are those represented graphically in figs. 19–26, Plate I. I use the term *brother german*, to denote brother on the father's side, following McLennan[2]; Sir H. Maine[3] uses the longer term *brother consanguineous*. In the case of the third genus of the same order, we have several remarkable species. The sixth and the eighth species necessarily reduce to simple forms—a mother of the son of a woman is necessarily the woman referred to, and a mother of a daughter of a woman is necessarily the woman referred to. The two corresponding male species,—the first and the third—are not so necessarily reducible; they are so only in countries where monandry is established. Hence the rule is, that $fpcf$ always reduces to f; and $mpcm$ to m where monandry is established. On the other hand $mpcf$ and $fpcm$ are necessarily irreducible, owing to the fact that sex in mankind is diœcious. Hence of the

[1] Galton's "Hereditary Genius," p. 93.
[2] McLennan's "Studies in Ancient History," p. 176.
[3] Sir H. Maine's "Ancient Law," p. 152.

four lines (figs. 27–30, Plate II) the first necessarily collapses where monandry is established, the second and third cannot collapse, and the fourth necessarily collapses.

I may observe here that the expression in words entered below a notation is always intended to be the exact equivalent of the notation, so far as existing English words can convey the meaning. An entry of this sort, of course, differs from one which means that the relationship denoted belongs to the class described; for then it is the sum of all the relationships, which are said to belong to the given class, that is the equivalent of the class. For instance, brother or sister-in-law is not the equivalent of *c p p c*, but of *c p p c* and *p c c p* taken together. The relationship to which a given relationship reduces may not be the exact equivalent of the relationship; it is one which necessarily follows from the given relationship, as such.

Another important system of relationships (Table III) is obtained by supposing the sex of the extremes to be given; that is, by specifying *m* or *f* at the front and at the end. When the relationships are considered to be irreducible, the specification of the sex of the relation may determine the sex of some of the intermediates, or of the origin. This depends on the Laws of Reduction stated on page 53. The rule for putting in the consequent specifications of sex is as follows:—When a relationship begins with *p c*, the sex-symbol after the *p c* is the opposite of that in front, and should this *p c* be followed by another, the sex-symbol following the latter will be the same as that in front. In the same way the sex-symbol at the end, when immediately preceded by *p c*, requires the sex-symbol before the *p c* to be its opposite, and so on.

In the table referred to, I have developed the general relationship *first* for the relation being male, and the origin female; and *secondly*, for the relation being female, and the origin male. The first series fully developed gives all the possible relationships of a man to a woman, the second series all the possible relationships of a woman to a man. Corresponding to any relationship in the one series, there is a relationship in the other series which is its reciprocal. Two relationships may be said to be reciprocal to one another, if when one denotes the relationship of *R* to *A*, the other denotes the consequent relationship of *A* to *R*. Hence the rule for deducing the reciprocal of a relationship is—Write the given relationship backwards, at the same time changing each *c* into *p*, and each *p* into *c*. For example, the reciprocal of *m c c p f* is *f c p p m*; if *R* is the nephew of the woman *A*, then *A* is the aunt of the man *R*.

The deducing of the reciprocal relationship is a special case

of the problem—Given a proposition stating a relationship between two persons, into how many equivalent forms can the statement be put? The solution will be best explained by means of an example. Suppose the given statement to be that represented by fig. 31, Plate II, namely, R is a son of a sister of the father of the woman A. This is expressed in the analytical notation by—

$$R = m\,c\,f\,c\,p\,m\,p\,f\,A, \qquad (1)$$

It follows that

$$p\,m\,R = f\,c\,p\,m\,p\,f\,A \qquad (2)$$

A parent of the man R is a sister of the father of the woman A.

$$p\,f\,p\,m\,R = p\,m\,p\,f\,A, \qquad (3)$$

A parent of the mother of the man R is a parent of the father of the woman A;

$$c\,p\,f\,p\,m\,R = m\,p\,f\,A, \qquad (4)$$

A brother of the mother of the man R is the father of the woman A.

$$\text{and } f\,c\,m\,c\,p\,f\,p\,m\,R = A, \qquad (5)$$

A daughter of a brother of the mother of the man R is A.

Thus the statement can be thrown into as many forms as there are persons involved in the relationship, each successive form being derived by taking away a c or a p, from the front of the right hand side, and putting a p or a c at the front of the left hand side. The final form is the reciprocal of the original form.

A statement of the laws of marriage of a country is obtained by marking those relationships of the first series, which are inconsistent with the relationship of husband, or those of the second series, which are inconsistent with the relationship of wife. I have marked with an asterisk the relationships explicitly excluded by the English Table of Degrees. Theoretically, no doubt, all the relationships of the lineal classes are excluded, those only being stated which are not rendered impossible by difference of grade. By the law of the Greek Church, all the relationships of this table, with the necessary exception of wife, and the impossible exception of wife of husband, are excluded. Not only so—to form a table exhibiting all the excluded relationships would require one embracing the first nine orders.

Table IV exhibits an important mode of developing the relationships of consanguinity. These embrace the general relationships of the lineal and collateral classes only; and they coincide with the *cognates* of the Romans, provided we generalise the meaning of c so as to denote not only actual child, but

also child by adoption. The principle by which the division into species is effected, is by writing m or f after each c and before each p of the general relationship. By grouping together the relationships at the beginning of the several rows, that is, all those traced exclusively through males, we obtain the agnatic system of the Roman law[1]; and by grouping together the relationships at the end of the several rows we obtain the uterine system, that is, the system resulting from tracing kinship through females only[2]. We can also obtain by separating out from this table, the system resulting from any other law of tracing kinships, as, for example, by tracing alternately through a male and a female.

It will be observed that to express fully the different specific relationships we require four and only four irreducible terms, namely, brother-german, brother-uterine, sister-german, sister-uterine, the reason being that the only change of letter that we can have is that from c to p. This is what Morgan calls a purely descriptive system. But other irreducible terms, though not required, might be introduced, and their introduction would not make the system less descriptive. On the other hand, if a language does not provide simple terms for the four collateral relationships mentioned, it is needless to expect that it will provide simple terms for the more complex collateral relationships.

It is now necessary to consider the proper mode of denoting compound relationships. An elementary relationship is one which denotes a single line of connection between the extremes; a compound relationship is one which denotes the simultaneous existence of several such lines. The simplest example is in the case of full brother or full sister. To denote that R is the full brother of A, we may write

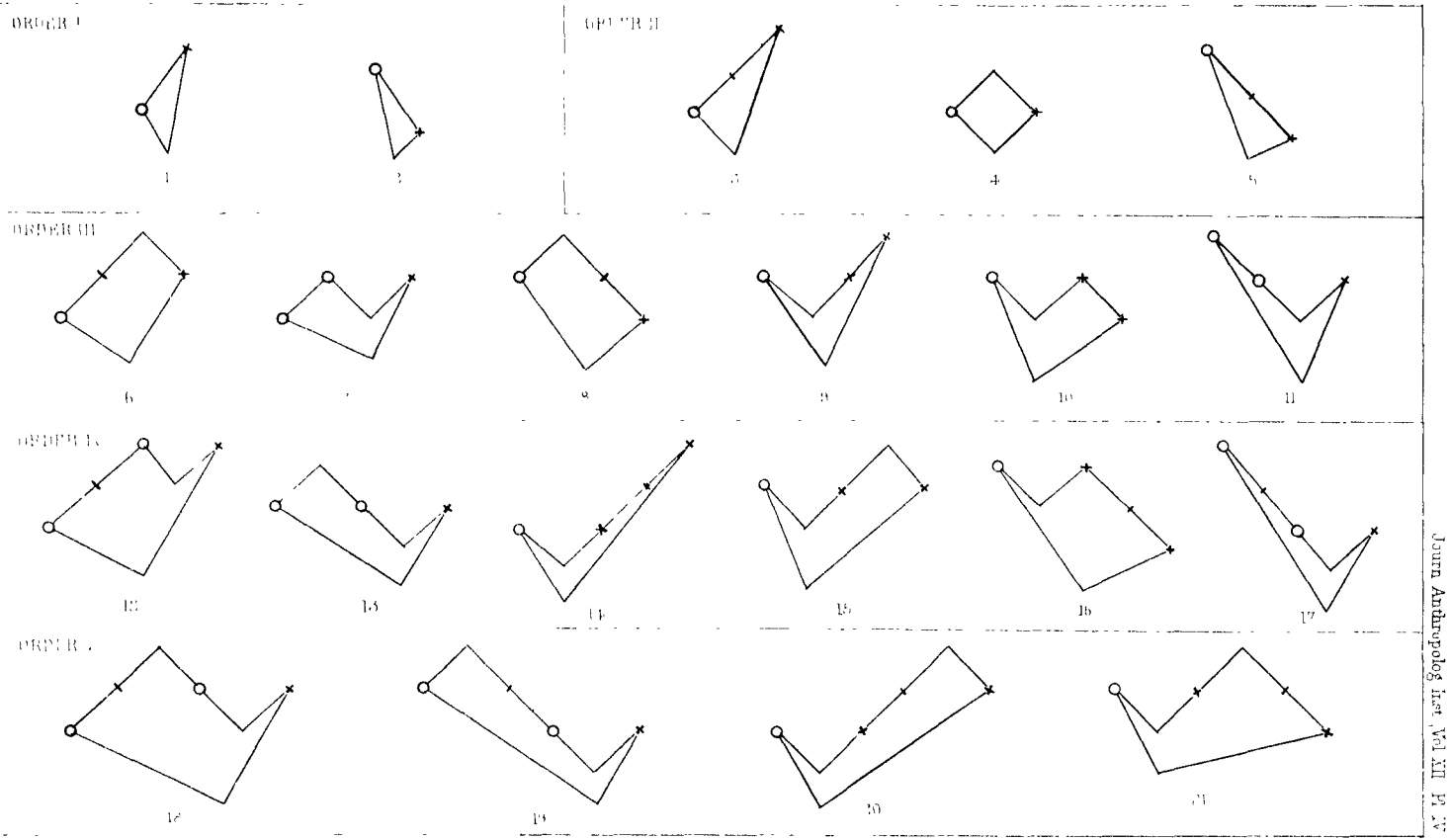
$$R = m \left\{ \begin{matrix} c\,m\,p \\ c\,f\,p \end{matrix} \right\} A$$

using a bracket to embrace the two members of the bifurcation. When the bifurcation does not commence with the relation or terminate in the origin, the common part may be written outside the bracket. For example, the statement that R is a child of a full brother of a grandparent of A may be written

$$R = c\,m \left\{ \begin{matrix} c\,m\,p \\ c\,f\,p \end{matrix} \right\} p\,p\,A.$$

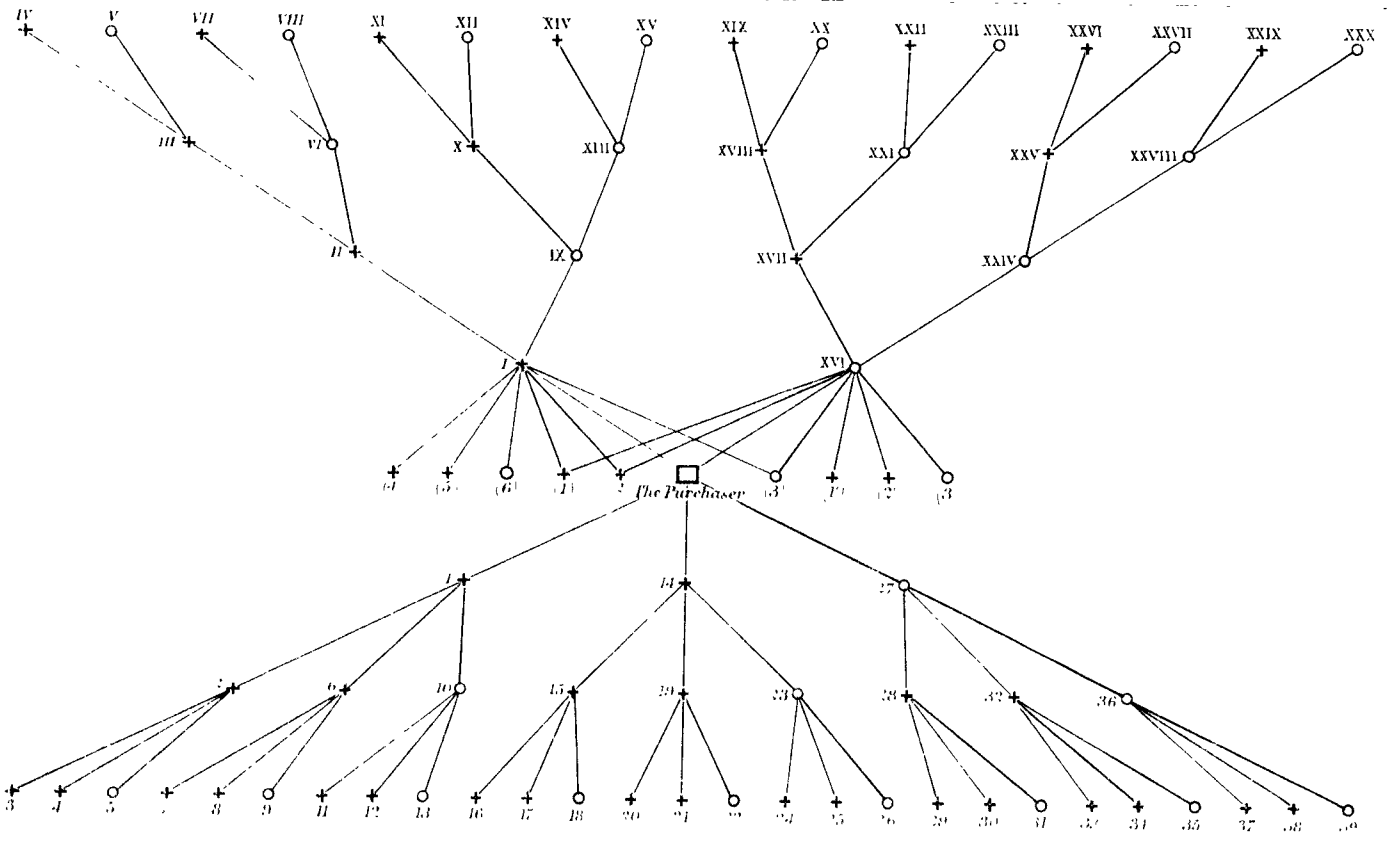
Figs. 32, 33, Plate II, show how the above statements are expressed by the graphic notation; and other examples are to

[1] Sir H. Maine's "Ancient Law," p. 146.
[2] McLennan's "Studies in Ancient History," p. 124.



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PL IV GRAPHICAL STATEMENT OF THE ENGLISH LAWS OF MARRIAGE AND THEIR CONSEQUENCES.



DESCENT OF PROPERTY ACCORDING TO THE ENGLISH LAW.

be found on Plates IV and V. The two branches of a bifurcation may or may not be of the same genus relationship.

It is best to consider compound relationships as embracing any combination of elementary relationships, and then to classify them into the possible and the impossible. The latter may be further classified according to the law or laws which render them impossible. Several of these laws have already been referred to, namely—(1) the diœcious nature of sex; (2) the definiteness of mother; (3) the definiteness of father where monandry prevails. Other laws are, (4) the continuity of a person's life, which prevents any ancestor of a person from also being a descendant of that person; (5) the maximum length of human life compared with the minimum length of a generation, which renders impossible the marriage of parties separated by a certain number of generations; (6) the marriage laws of a country preventing marriage between parties already nearly related.

On Plate IV I have exhibited the combinations rendered impossible by the English Laws of Marriage (following the Table of Degrees, p. 55). In each case we have a cyclic relationship, and the impossibility of the existence of this cycle may be expressed in various ways. We can take each person in turn as being both relation and origin of the relationship, and then transform each of these statements in accordance with the rule (p. 55). For example, take the fourth impossible cycle, the primary meaning of which is that a man cannot be the husband of a sister of himself. This is the reading obtained by taking No. 1 (*see* fig. 34, Plate II) as both relation and origin of the supposed relationship. By taking No. 2 we obtain—A person cannot be the child of a sister of the father of him or herself. By taking No. 3 we obtain—A woman cannot be the sister of the husband of herself. Finally by taking No. 4—A person cannot be the parent of the husband of the daughter of him or herself. To show how any one of these statements may be further transformed, in accordance with the rule on p. 55, take the first—

	mA	cannot be	$mpcfcpmA$.	(1)
Then	cmA	cannot be	$cfcpmA$;	(2)
and	$pcmA$	cannot be	$fcpmA$;	(3)
and	$pfpcmA$	cannot be	pmA;	(4)
and	$cpfpcmA$	cannot be	mA.	(5)

The meanings of these several transformations are:

A child of the man A cannot be a son of a sister of A; (2)
A wife of A cannot be a sister of A; (3)

A parent-in-law of the man A cannot be a parent of A; (4)

A brother of the wife of A cannot be A himself. (5)

The last form is the reciprocal of the first; it is obtained by going in the opposite direction round the cycle. It may be shown in a similar manner that each of the other three principal statements has five forms. Let the number of persons involved in such a cycle be n; then the number of principal statements is n, and the number of forms for each of these is $n + 1$; hence the total number of forms is $n(n + 1)$.

The above is the only impossible cycle which occurs in the combination of two cousin relationships.

By means of this notation we can easily calculate the amount of consanguinity existing between two persons connected by a given relationship, provided we can first settle two principles, namely, the relative parts to be ascribed to father and mother, and secondly, how far the consanguinity derived by one child from a parent is equivalent to the consanguinity derived by another child from the same parent. Suppose that the answers to these questions respectively are that the parts are equal, and that the consanguinities are wholly equivalent; then in the case of any lineal relationship the consanguinity will be measured by a product of as many halves as there are letters in the relationship; and in the case of any collateral relationship the number of times half is repeated in the product will be less than the number of letters in the relationship by one. In the case of a compound relationship the total value of the consanguinity is the sum of the consanguinities of the elements. The value for single first cousin is one-eighth; hence for two-fold first cousin it must be a quarter; for three-fold first cousin three-eighths; and for four-fold first cousin one-half.

I propose to accept the late Dr. Morgan's invitation[1] to criticise the data furnished in his tables. He took for the basis of his schedule of questions the Roman method of denoting relationships. That method was no doubt sufficient for the purpose for which it was intended; but for the purpose of a scientific inquiry, which to be useful must involve the discrimination of very nice differences, we require a more exact analysis. In Morgan's Tables we nowhere find the distinction between an elementary and a compound relationship: thus, for example, *brother* may mean brother with respect to father, or brother with respect to mother, or brother with respect to both father and mother. The questions of the schedule are not test questions, but aim at being exhaustive. They amount to 268—a number

[1] "Systems of Consanguinity and Affinity," p. 9.

sufficiently great to make it difficult to keep an American Indian to the task of answering, and to cause the filling up of a schedule by another person to occupy two or three years, but still a number very far from being exhaustive, when we consider that without going beyond the fifth order there are more than 27,000 elementary relationships. These 268 questions are not distributed so well as they might have been, for 228 are devoted to the first two classes—the lineal and the collateral, while only 37 are devoted to the remaining classes. This disproportion becomes all the more striking, when we bear in mind that the principal application to which Morgan attempted to put the data was to determine the forms through which the institution of marriage is supposed to have passed.

When we examine his tables we find that the specification of sex in a relationship is introduced or omitted in a very arbitrary manner. For example, in his first Table, question 4, we have given as the equivalents of mother of great grandfather terms which are really equivalent to (1) grandmother of grandmother, (2) great grandmother of father, (3) grandmother of grandfather, (4) great great grandmother, while we have, in addition, terms which are really equivalent to the heading. Question 13 is "grandson" (common term), and question 14 is "grandson" (descriptive phrase). Under the former heading, besides proper equivalents of grandson, I find some terms which are equivalent to grandchild, others to son of son, and one to son of daughter; and there is no difference in the nature of the entries under the other heading, excepting that son of daughter is more frequently introduced.

The tables have three columns, one of which is devoted to the description of a relationship in English, the second to the corresponding relationship in the foreign language, and the third to a translation of the entry in the second. Now if the second entry is the precise equivalent of the first, then the first is the proper translation of the second, and accordingly we find that the entries in the first and third columns are frequently the same. There is room for a third column, when and only when the question is understood to be what is the idiomatic expression in the foreign language of the given relationship, and what is a literal translation of that expression into English. This is the case with the Chinese method. But in the case of the American Indian methods this cannot be said to be the meaning of the entry of the third column. It is not co-extensive with, but includes the entry of the second column.

The analysis of this paper suggests two methods of dealing with Morgan's data or of recording more exact ones. First, the general relationships of Table I. broken up, if necessary, into

species, may be taken as the schedule of questions, and their equivalents in the particular language entered in another column; second, the principal relationship words or phrases in the particular language may be made the argument, and their equivalent in the scientific notation be made the entry. The first method tests whether the data are complete within the orders of relationship considered; and the mere arrangement of the data, when so stated, is sufficient to show the principal characteristics of the particular system examined.

In Table V I have given an example of how the second method may be employed. The relationship words and phrases in the English language are defined not in terms of one another but in terms of an exact scientific notation. Mr. Francis Galton suggested to me that I should show that this could be done. The relationship terms of any language may be exactly defined in this manner.

I have supplied (Plate V) the graphic notation to the problem of giving a complete representation of the descent of property according to the English law. The purchaser is the origin of the scheme; three generations of lineal descendants and four generations of lineal ascendants are taken into account. A family is sufficiently represented by two sons and one daughter, because the elder son succeeds before the younger, and the youngest son before any daughter, but all the daughters together. The order of succession among the lineal descendants is indicated by the numbers. Suppose the issue of the purchaser exhausted, then the inheritance goes back to the lineal ascendants or their issue in the order indicated by the Roman numerals. Each lineal ancestor forms a stock and his family breaks up into sub-stocks, which succeed in the manner indicated by the numbers enclosed within the brackets. The issue of each sub-stock succeeds in the same order as the issue of the purchaser. The sub-stocks 1, 2, 3, 4, 5, 6, succeed after the father, while (1′), (2′), (3′), succeed after the mother. The diagram supposes sub-stocks attached to each pair of stocks, and issue to each of the sub-stocks.

Appendix.—After I read the above paper Mr. Francis Galton suggested to me that the notation would be improved were the symbols so taken that the expressions could be spoken. The simplest way of carrying out this idea seems to me to be to use the vowels *a* and *o* instead of the consonants *c* and *p*; to employ *m* and *f* as before to denote male and female, while *mf* may be taken to denote both; and to introduce *y* as a consonant between two vowels not separated by *m*, *f*, or *mf*. On Table V will be found the vocalised equivalents of the ordinary terms of relationship formed in accordance with these principles. After

further study of this matter I may be able to make improvements; but the scheme given is so far a construction of a small portion of the scientific language discussed by Professor Max Müller in his "Lectures on the Science of Language."[1]

Explanation of Plates II to V.

PLATE II.

Figures illustrative of the text of the paper.

PLATE III.

Diagram showing characteristics of the classes occurring in the first five orders of the author's system.

PLATE IV.

Graphical statement of the English Laws of Marriage and their consequences.

PLATE V.

Diagram showing Descent of Property according to the English Law.

DISCUSSION.

Mr. GALTON said that the attempt to express relationship was essentially a difficult task, not to be got through by any Royal road; it was like attempting to define the position of a large number of draughtsmen on a board, which could not be done without a great deal of detailed description. We were apt to underrate the difficulty of expressing relationship owing to the imperfect nomenclature to which habit had accustomed us, but as soon as we found it necessary to define a relationship accurately, the imperfection of our language and the vagueness of our ordinary conceptions became manifest. There was an especial source of verbal confusion in the way in which the same relationship was sometimes singly and sometimes doubly expressed. We say, for example, on the one hand, that A is father of B, or conversely that B is son of A, and on the other hand that the relationship between A and B is that of father and son. There was an incongruity in using the two phrases as equivalent. "Father and son" in the single sense means the father and the son of a third person, and refers to three generations, viz.: to the father of A, to A, and to A's son, whereas in the double sense it refers to two generations only.

He thought that Dr. Macfarlane had attacked the problem of relationship with thoroughness, ability, and success, and that he had done a very acceptable work for all who concerned themselves with genealogies of the complicated descriptions referred to by

[1] Max Müller's "Lectures on the Science of Language," vol. ii, p. 48.

Dr. Macfarlane. The diagrammatic form seemed to himself the most distinctive and self-explanatory. Some few, however, of the series of letters were perhaps a little too long and cumbrous compared with the simplicity of the relationship they conveyed, as, for example, the formula by which a husband's sister was expressed. He should like to receive an assurance from the author that he was able himself readily to decipher his own formulæ, after he had laid the subject by for a time and had temporarily ceased to be familiar with it.

Mr. PARK HARRISON, the Rev. Professor HARLEY, and the CHAIRMAN also took part in the discussion.

Dr. MACFARLANE, in reply to questions asked, stated that a little practice was sufficient to enable one to use either the analytical or graphical notation, while in reading off the notation to others the difficulty consisted in framing an expression in ordinary words having a meaning exactly equivalent to that concisely and precisely expressed by the notation; that the expression of the complex relationships in terms of the fundamental symbols *c*, *p*, *m*, *f*, while a principle of the analysis, did not preclude the introduction of single letters to denote the more frequently occurring complex ideas, just as the chemist, while expressing the composition of every substance in terms of the elementary substances, introduced special symbols to denote frequently occurring combinations; and that he wrote *m* and *f* not as suffixes but in the same letter as *c* and *p*, though they were symbols of a different kind, because the expressions were then more easily written and printed, and besides, for some applications numerical suffixes had to be introduced to distinguish the different children, or the different sons, or the different daughters.

TABLE V.—DEFINITION OF THE ENGLISH TERMS OF RELATIONSHIP.

Term or Phrase.	Equivalent.	Vocalised Equivalent.
Aunt, half blood	$fcpp$ ..	fayoyo.
„ full blood	$fc\overset{m}{f}pp$ ..	famfoyo.
„ half blood, paternal	$fcpmp$ ..	fayomo.
„ full blood, „	$fc\overset{m}{f}pmp$ ..	famfofo.
„ half blood, maternal	$fcpfp$ ..	fayofo.
„ full blood, „	$fc\overset{m}{f}pfp$ ..	famfofo.
Brother, half blood	mcp	mayo.
„ full blood	$mc\overset{m}{f}p$ ..	mamfo.
„ german	$mcmp$ ..	mamo.

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TABLE I.—GENERAL RELATIONSHIPS OF THE FIRST FIVE ORDERS—THEIR MEANING AND CLASSIFICATIONS.

Order.	Genus.	General Meaning.	Irreducible Meaning.	Class.	Sub-class.	Number.	Index.	Sign.	Grade.
I.....	*c* ..	child	child	lineal, descending	..	first ..	1	+	1
	p ..	parent	parent	lineal, ascending	..	first ..	−1	−	−1
II. ..	*cc* ..	grandchild	grandchild..	lineal, descending	..	second ..	2	+	2
	cp ..	child of parent..	brother or sister	collateral	first ..	first ..	1−1	+−	0
	pc ..	parent of child..	consort	affinal	first ..	first ..	−1+1	−+	0
	pp ..	grandparent	grandparent	lineal, ascending	..	second ..	−2	−	−2
III. ..	*ccc* ..	great grandchild	great grandchild	lineal, ascending	..	third ..	3	+	3
	ccp ..	grandchild of parent	nephew or niece	collateral, ...	first ..	second ..	2−1	+−	1
	cpc ..	child of parent of child	step-child	step-lineal, descending	first ..	first ..	1−1+1	+−+	1
	cpp ..	child of grandparent	uncle or aunt	collateral	second ..	first ..	1−2	+−	−1
	pcc ..	parent of grandchild	child-in-law	affinal	second ..	first ..	−1+2	−+	1
	pcp ..	parent of child of parent	step-parent	step-lineal, ascending	first ..	first ..	−1+1−1	−+−	−1
	ppc ..	grandparent of child	parent-in-law	affinal	first ..	second ..	−2+1	−+	−1
	ppp ..	great grandparent	great grandparent	lineal, ascending	..	third ..	−3	−	−3
IV. ..	*cccc* ..	great great grandchild	great great grandchild	lineal, descending..	..	fourth ..	4	+	4
	cccp ..	great grandchild of parent	grandnephew or grandniece	collateral	first ..	third ..	3−1	+−	2
	ccpc ..	grandchild of parent of child	child of step-child	step-lineal, descending	first ..	second ..	2−1+1	+−+	2
	ccpp ..	grandchild of grandparent	first cousin..	collateral	second ..	second ..	2−2	+−	0
	cpcc ..	child of parent of grandchild	step-child of child	step-lineal, descending	second ..	first ..	1−1+2	+−+	2
	cpcp ..	child of parent of child of parent	step-brother or step-sister	step-collateral	first ..	first ..	1−1+1−1	+−+−	0
	cppc ..	child of grandparent of child..	brother or sister of consort	first collateral of affinal	first ..	first ..	1−2+1	+−+	0
	cppp ..	child of great grandparent	granduncle or grandaunt..	collateral	third ..	first ..	1−3	+−	−2
	pccc ..	parent of great grandchild	consort of grandchild	affinal	third ..	first ..	−1+3	−+	2
	pccp ..	parent of grandchild of parent	consort of brother or sister	first affinal of collateral	first ..	first ..	−1+2−1	−+−	0
	pcpc ..	parent of child of parent of child	step-consort	step-affinal..	first ..	first ..	−1+1−1+1	−+−+	0
	pcpp ..	parent of child of grandparent	step-parent of parent	step-lineal, ascending	second ..	first ..	−1+1−2	−+−	−2
	ppcc ..	grandparent of grandchild	parent-in-law of child	affinal	second .	second ..	−2+2	−+	0
	ppcp ..	grandparent of child of parent	parent of step-parent	step-lineal, ascending	first ..	second ..	−2+1−1	−+−	−2
	pppc ..	great grandparent of child	grandparent of consort	affinal	first ..	third ..	−3+1	−+	−2
	pppp .	great great grandparent	great great grandparent	lineal, ascending	..	fourth ..	−4	−	−4
V. ..	*ccccc* .	great great great grandchild	great great great grandchild	lineal, descending..	..	fifth ..	5	+	5
	ccccp .	great great grandchild of parent	great grandnephew or niece	collateral	first ..	fourth ..	4−1	+−	3
	ccccpc .	great grandchild of parent of child	grandchild of step-child	step-lineal, descending	first ..	third ..	3−1+1	+−+	3
	cccpp .	great grandchild of grandparent	child of first cousin	collateral	second ..	third ..	3−2	+−	1
	ccpcc .	grandchild of parent of grandchild ..	child of step-child of child	step-lineal, descending	second ..	second ..	2−1+2	+−+	3
	ccpcp .	grandchild of parent of child of parent .	child of step-brother or sister	step-collateral	first ..	second ..	2−1+1−1	+−+−	1
	ccppc .	grandchild of grandparent of child	nephew or niece of consort	first collateral of affinal	first ..	second ..	2−2+1	+−+	1
	ccppp .	grandchild of great grandparent	child of granduncle or grandaunt ..	collateral	third ..	second ..	2−3	+−	−1
	cpccc .	child of parent of great grandchild.. .	step-child of grandchild	step-lineal, descending	third ..	first ..	1−1+3	+−+	3
	cpccp .	child of parent of grandchild of parent .	step-child of brother or sister	first step-lineal of collateral ..	first ..	first ..	1−1+2−1	+−+−	1
	cpcpc .	child of parent of child of parent of child .	step-step-child	step-step-lineal, descending ..	first ..	first ..	1−1+1−1+1	+−+−+	1
	cpcpp .	child of parent of child of grandparent ..	step-brother or step-sister of parent ..	step-collateral	second ..	first ..	1−1+1−2	+−+−	−1
	cppcc .	child of grandparent of grandchild	brother or sister of children-in-law ..	first collateral of affinal	second ..	first	1−2+2	+−+	1
	cppcp .	child of grandparent of child of parent .	brother of sister of step-parent	first collateral of step-lineal ..	first ..	first ..	1−2+1−1	+−+−	−1
	cpppc .	child of great grandparent of child	uncle or aunt of consort	second collateral of affinal ..	first ..	first ..	1−3+1	+−+	−1
	ppppp .	child of great great grandparent .. .	great granduncle or aunt	collateral	fourth ..	first ..	1−4	+−	−3
	pcccc .	parent of great great grandchild .. .	consort of great grandchild	affinal	fourth ..	first ..	−1+4	−+	3
	pcccp .	parent of great grandchild of parent.. ..	consort of nephew or niece	second affinal of collateral ..	first ..	first .	−1+3−1	−+−	1
	pccpc .	parent of grandchild of parent of child ..	consort of step-child	first affinal of step lineal ..	first ..	first ..	−1+2−1+1	−+−+	1
	pccpp .	parent of grandchild of grandparent.. ..	consort of uncle or aunt	first affinal of collateral ..	second ..	first ..	−1+2−2	−+−	−1
	pcpcc .	parent of child of parent of grandchild ..	step-consort of child	step-affinal..	second ..	first .	−1+1−1+2	−+−+	1
	pcpcp .	parent of child of parent of child of parent..	step-step parent	step-step-lineal, ascending ..	first ..	first ..	−1+1−1+1−1	−+−+−	−1
	pcppc .	parent of child of grandparent of child ..	step-parent of consort	first step-lineal of affinal.. ..	first ..	first .	−1+1−2+1	−+−−	−1
	pcppp .	parent of child of great grandparent ..	step-parent of grandparent	step-lineal, ascending	third ..	first ..	−1+1−3	−+−	−3
	ppccc .	grandparent of great grandchild	parent-in-law of grandchild	affinal	third ..	second ..	−2+3	−+	1
	ppccp .	grandparent of grandchild of parent ..	parent-in-law of brother or sister ..	first affinal of collateral	first ..	second .	−2+2−1	−+−	−1
	ppcpc .	grandparent of child of parent of child ..	parent of step-consort	step-affinal..	first ..	second .	−2+1−1+1	−+−+	−1
	ppcpp .	grandparent of child of grandparent ..	parent of step-parent of parent.. ..	step-lineal, ascending	second ..	second ..	−2+1−2	−+−	−3
	pppcc .	great grandparent of grandchild	parent of parent-in-law of child ..	affinal	second ..	third .	−3+2	−+	−1
	pppcp .	great grandparent of child of parent ..	grandparent of step-parent	step-lineal, ascending	first ..	third ..	−3+1−1	−+−	−3
	ppppc .	great great grandparent of child	grandparent of parent-in-law	affinal	first ..	fourth ..	−4+1	−+	−3
	ppppp .	great great great great grandparent	great great great grandparent	lineal, ascending	..	fifth ..	−5		−5

TABLE II.—GENERAL RELATIONSHIPS OF THE FIRST TWO ORDERS DIVIDED INTO THEIR ULTIMATE SPECIES

ORDER I.

Line.	Genus.			
	mm	*mf*	*fm*	*ff*
	mcm son of man	*mcf* son of woman	*fcm* daughter of man	*fcf* daughter of woman
p	*mpm* father of man	*mpf* father of woman	*fpm* daughter of man	*fpf* daughter of woman

ORDER II.

Line.	Genus.						
	mmm	*mmf*	*mfm*	*mff*	*fm*	*ffm*	*fff*
cc	*mcmcm* son of son of man	*mcmcf* son of son of woman	*mcfcm* son of daughter of man	*mcfcf* son of daughter of woman	*fcmcm* daughter of son of man	*fcmcf* daughter of son of woman	*fcfcf* daughter of daughter of woman
cp	*mcmpm* brother-german of man	*mcmpf* mother-german of woman	*mcfpm* brother-uterine of man	*mcfpf* sister-uterine of woman	*fcmpm* sister-german of man	*fcmpf* sister-german of woman	*fcfpf* sister-german of woman
pc	*mpmcm* father of son of man (man)	*mpmcf* father of son of woman	*mpfcm* father of daughter of man (man)	*mpfcf* father of daughter of woman	*fpmcm* other of son of man	*fpmcf* other of son of woman	*fpfcf* other of daughter of woman
pp	*mpmpm* father of father of man	*mpmpf* mother of father of woman	*mpfpm* father of mother of man	*mpfpf* mother of mother of woman	*fpmpm* mother of father of man	*fpmpf* mother of father of woman	*fpfpf* mother of mother of woman

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TABLE III.—POSSIBLE RELATIONSHIPS OF A MAN TO A WOMAN, AND OF A WOMAN TO A MAN. (Within the first five Orders.)

		Man to Woman.		Woman to Man.	
Order.	Genus.	Notation.	Meaning.	Notation.	Meaning.
I.	*c*	*mcf*	*son	*fcm*	*daughter.
	p	*mpf*	*father	*fpm*	*mother.
II.	*cc*	*mccf*	*grandson	*fccm*	*granddaughter.
	cp	*mcpf*	*brother	*fcpm*	*sister.
	pc	*mpcf*	husband	*fpcm*	wife.
	pp	*mppf*	*grandfather	*fppm*	*grandmother.
III.	*ccc*	*mcccf*	great grandson	*fcccm*	great granddaughter.
	ccp	*mccpf*	*nephew	*fccpm*	*niece.
	cpc	*mcmpcf*	*son of husband	*fcfpcm*	*daughter of wife.
	cpp	*mcppf*	*uncle	*fcppm*	*aunt.
	pcc	*mpcfcf*	*husband of daughter	*fpcmcm*	*wife of son.
	pcp	*mpcfpf*	*stepfather	*fpcmpm*	*step-mother.
	ppc	*mpmpcf*	*father of husband	*fpfpcm*	*mother.
	ppp	*mpppf*	great grandfather	*fpppm*	great grandmother.
IV.	*cccc*	*mcccf*	great grandson	*fcccm*	great great granddaughter
	cccp	*mcccpf*	grandnephew	*fcccpm*	grandniece.
	ccpc	*mccmpcf*	*son of step-child	*fcfpcm*	*daughter of step-child.
	ccpp	*mccppf*	first cousin (male)	*fccppm*	first cousin (female).
	cpcc	*mcpccf*	stepson of child	*fpccm*	step-daughter of child.
	cpcp	*mcpcpf*	step-brother	*fpcpm*	step-sister.
	cppc	*mcpmpcf*	*brother of husband	*fcpfpcm*	*sister of wife.
	cppp	*mcpppf*	granduncle	*fcpppm*	grandaunt.
	pccc	*mpcfccf*	*husband of granddaughter	*fpcmccm*	*wife of grandson.
	pccp	*mpcfccpf*	*husband of sister	*fpcmcpm*	*wife of brother.
	pcpc	[*mpcfpcm*]	[husband of wife]	[*fpcmpcf*]	[wife of husband].
	pcpp	*mpcfppf*	*stepfather of parent	*fpcmppm*	*step-mother of parent.
	ppcc	*mppccf*	father-in-law of child	*fppccm*	mother-in-law of child.
	ppcp	*mppcpf*	father of step-parent	*fppcpm*	mother of step-parent.
	pppc	*mppmpcf*	*grandfather of husband	*fpfpcm*	*grandmother of wife.
	pppp	*mpppf*	great great grandfather	*fppppm*	great great grandmother.
V.	*ccccc*	*mccccf*	great great great grandson	*fccccm*	great great great granddaughter.
	cccep	*mcccpf*	great grandnephew	*fcccpm*	great grandniece.
	cccpc	*mcccmpcf*	grandson of step-child	*fccfpcm*	granddaughter of step-child.
	cccpp	*mcccppf*	son of first cousin	*fcccppm*	daughter of first cousin.
	ccpcc	*mccpccf*	son of step-child of child	*fccpccm*	daughter of step-child of child.
	ccpcp	*mccpcpf*	son of step-brother or step-sister	*fccpcpm*	daughter of step-brother or step-sister.
	ccppc	*mccpmpcf*	*nephew of husband	*fcpfpcm*	*niece of wife.
	ccppp	*mccpppf*	son of granduncle or grandaunt	*fcpppm*	daughter of granduncle or grandaunt.
	cpccc	*mcpcccf*	step-son of grandchild	*fpccccm*	step-daughter of grandchild.
	cpccp	*mcpccpf*	step-son of brother or sister	*fpcccpm*	step-daughter of brother or sister.
	cpcpc	*mcfpcmpcf*	step-step-son	*fcmpcfpcm*	step-step daughter.
	cpcpp	*mcpcppf*	step-brother of parent	*fpcpppm*	step-sister of parent.
	cppcc	*mcppccf*	brother of child-in-law	*fppccm*	sister of child in-law.
	cppcp	*mcppcpf*	brother of step-parent	*fppcpm*	sister of step-parent.
	cpppc	*mcpppmpcf*	*uncle of husband	*fcpfpcm*	*aunt of wife.
	cpppp	*mcppppf*	great granduncle	*fcppppm*	great grandaunt.
	pcccc	*mpcfccf*	husband of great granddaughter	*fpcmccm*	wife of great grandson.
	pcccp	*mpcfccpf*	*husband of niece	*fpcmcpm*	*wife of nephew.
	pccpc	*mpcfcmpcf*	husband of step-daughter	*fpcmfpcm*	wife of step-son.
	pccpp	*mpcfcppf*	*husband of aunt	*fpcmppm*	*wife of uncle.
	pcpcc	*mpcfpcmcf*	other husband of daughter-in-law	*fpcmpcfm*	other wife of son-in-law.
	pcpcp	*mpcfpcmpf*	step-step-father	*fpcmpcfpm*	step-step-mother.
	pcppc	*mpcfpmpcf*	step-father of husband	*fpcmpfpcm*	step-mother of wife.
	pcppp	*mpcfppppf*	step-father of grandparent	*fpcmpppm*	step-mother of grandparent.
	ppccc	*mppcccf*	father-in-law of grandchild	*fppcccm*	mother-in-law of grandchild.
	ppccp	*mppccpf*	father-in-law of brother or sister	*fppccpm*	mother-in-law of brother or sister.
	ppcpc	*mpfpcmpcf*	father of another wife of husband	*fpmpcfpcm*	mother of another husband of wife
	ppcpp	*mppcppf*	father of step-parent of parent	*fppcppm*	mother of step-parent of parent.
	pppcc	*mpppccf*	father of parent-in-law of child	*fppcccm*	grandmother-in-law of child.
	pppcp	*mpppcpf*	grandfather of step-parent	*fppcpm*	grandmother of step-parent.
	ppppc	*mpppmpcf*	great grandfather-in-law	*fppfpcm*	great grandmother-in-law.
	ppppp	*mppppf*	great great great grandfather	*fppppm*	great great great grandmother.

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TABLE IV.—CONSANGUINEOUS RELATIONSHIPS OF THE FIRST FOUR ORDERS GROUPED IN LINES AND SPECIES.

AGNATIC SYSTEM FORMED BY THE EXTREME TERMS ON THE LEFT; UTERINE SYSTEM FORMED BY THE EXTREME TERMS ON THE RIGHT.

Order.	Genus.															
I	.	*cm* child of man.								*cf* child of woman.						
	f	*mp* father.								*fp* mother.						
II	. .	*cmcm* child of son of man.		*cmcf* child of son of woman.				*cfcm* child of daughter of man.				*cfcf* child of daughter of woman.				
	. *p*	*cmp* brother or sister-german.								*cfp* brother or sister-uterine.						
	f f	*mpmp* father of father.		*mpfp* father of mother.				*fpmp* mother of father.				*fpfp* mother of mother.				
III	. . .	*cmcmcm* child of son of son of man		*cmcmcf* child of son of son of woman.		*cmcfcm* child of son of daughter of man.		*cmcfcf* child of son of daughter of woman.		*cfcmcm* child of daughter of son of man.		*cfcmcf* child of daughter of son of woman.		*cfcfcm* child of daughter of daughter of man.		*cfcfcf* child of daughter of daughter of woman
	. . *p*	*cmcmp* child of brother-german.				*cmcfp* child of brother uterine.				*cfcmp* child of sister-german.				*cfcfp* child of sister-uterine.		
	. *p p*	*cmpmp* brother or sister-german of father.				*cmpfp* brother or sister-german of mother.				*cfpmp* brother or sister-uterine of father.				*cfpfp* brother or sister-uterine of mother.		
	f f f	*mpmpmp* father of father of father.		*mpmpfp* father of father of mother.		*mpfpmp* father of mother of father.		*mpfpfp* father of mother of mother.		*fpmpmp* mother of father of father.		*fpmpfp* mother of father of mother.		*fpfpmp* mother of mother of father.		*fpfpfp* mother of mother of mother.
IV	. . . .	*cmcmcmcm* child of son of son of man.	*cmcmcmcf* child of son of son of woman.	*cmcmcfcm* child of son of daughter of man.	*cmcmcfcf* child of son of daughter of woman.	*cmcfcmcm* child of son of daughter of son of man.	*cmcfcmcf* child of son of daughter of son of man.	*cmcfcfcm* child of son of daughter of daughter of man.	*cmcfcfcf* child of son of daughter of daughter of woman.	*cfcmcmcm* child of daughter of son of son of man.	*cfcmcmcf* child of daughter of son of son of woman.	*cfcmcfcm* child of daughter of son of daughter of man.	*cfcmcfcf* child of daughter of son of daughter of woman.	*cfcfcmcm* child of daughter of daughter of son of man.	*cfcfcmcf* child of daughter of daughter of son of woman.	*cfcfcfcm* child of daughter of daughter of daughter of man	*cfcfcfcf* child of daughter of daughter of daughter of woman.
	. . . *p*	*cmcmcmp* child of son of brother-german.		*cmcmcfp* child of son of brother-uterine		*cmcfcmp* child of son of sister-german.		*cmcfcfp* child of son of sister-uterine.		*cfcmcmp* child of daughter of brother-german.		*cfcmcfp* child of daughter of brother-uterine.		*cfcfcmp* child of daughter of sister-german.		*cfcfcfp* child of daughter of sister-uterine.
	. . *p p*	*cmcmpmp* child of brother-german of father.		*cmcmpfp* child of brother-german of mother.		*cmcfpmp* child of brother-uterine of father.		*cmcfpfp* child of brother-uterine of mother.		*cfcmpmp* child of sister-german of father.		*cfcmpfp* child of sister-german of mother.		*cfcfpmp* child of sister-uterine of father.		*cfcfpfp* child of sister-uterine of mother.
	. *p p p*	*cmpmpmp* brother or sister-german of father of father		*cmpmpfp* brother or sister-german of father of mother.		*cmpfpmp* brother or sister-german of mother of father.		*cmpfpfp* brother or sister-german of mother of mother.		*cfpmpmp* brother or sister-uterine of father of father.		*cfpmpfp* brother or sister-uterine of father of mother.		*cfpfpmp* brother or sister-uterine of mother of father.		*cfpfpfp* brother or sister-uterine of mother of mother.
	p p p p	*mpmpmpmp* father of father of father of father.	*mpmpmpfp* father of father of father of mother.	*mpmpfpmp* father of father of mother of father.	*mpmpfpfp* father of father of mother of mother.	*mpfpmpmp* father of mother of father of father.	*mpfpmpfp* father of mother of father of mother.	*mpfpfpmp* father of mother of mother of father	*mpfpfpfp* father of mother of mother of mother.	*fpmpmpmp* mother of father of father of father	*fpmpmpfp* mother of father of father of mother.	*fpmpfpmp* mother of father of mother of father.	*fpmpfpfp* mother of father of mother of mother.	*fpfpmpmp* mother of mother of father of father.	*fpfpmpfp* mother of mother of father of mother.	*fpfpfpmp* mother of mother of mother of father.	*fpfpfpfp* mother of mother of mother of mother.

Term of Phrase.	Equivalent.	Vocalised Equivalent.
Brother uterine	$mcfp$	mafo.
Child	c	ya.
Consort	pc	yoya.
Cousin, first	$ccpp$	yayayoyo.
„ second	$cccppp$	yayayayoyoyo.
Daughter	fc	fa.
Daughter-in-law	$fpcmc$	foyama.
Father	mp	mo.
Father-in-law	$mppc$	moyoya.
Grandchild	cc	yaya.
Granddaughter	fcc	faya.
Grandson	mcc	maya.
Husband	$mpcf$	moyaf.
Mother	fp	fo.
Mother-in-law	$fppc$	foyoya.
Nephew, half blood	$mccp$	mayayo
„ full blood	$mcc\overset{m}{f}p$	mayamfo.
Niece, half blood	$fccp$	fayayo.
„ full blood	$fcc\overset{m}{f}p$	fayamfo.
Parent	p	yo.
Sister, half blood	fcp	fayo.
„ full blood	$fc\overset{m}{f}p$	famfo.
„ german	$fcmp$	famo.
„ uterine	$fcfp$	fafo.
Son	mc	ma.
Son-in-law	$mpcfc$	moyafa.
Step-brother	$mcpcp$	mayoyayo.
Step-child	cpc	yayoya.
Step-daughter	$fcpc$	fayoya.
Step-father	$mpcfp$	moyafo.
Step-mother	$fpcmp$	foyamo.
Step-parent	pcp	yoyayo.
Step-sister	$fcpcp$	fayoyayo.
Step-son	$mcpc$	mayoya.
Uncle, half blood	$mcpp$	mayoyo.
„ full blood	$mc\overset{m}{f}pp$	mamfoyo.
„ half blood, paternal	$mcpmp$	mayomo.
„ full blood, „	$mc\overset{m}{f}pmp$	mamfomo.
„ half blood, maternal	$mcpfp$	mayofo.
„ full blood „	$mc\overset{m}{f}pfp$	mamfofo.
Wife	$fpcm$	foyam.

Mr. J. E. PRICE exhibited a collection of Aggri Beads, and read the following paper:—

On AGGRI BEADS. By JOHN EDWARD PRICE, F.S.A.

WHILE arranging the interesting collection of Romano-British antiquities in the museum at Colchester my attention has been directed by the Honorary Curator, the Rev. C. L. Acland, M.A., to some interesting specimens of ornamental beads formed of glass, stone, earthenware, and other substances which have been discovered from time to time associated with human remains in the immediate vicinity of Colchester. As an early settlement, with unbroken occupation from the time when it existed as a British city to its colonization by Claudius in the first century, and subsequent growth under Roman rule, Colchester must ever hold a prominent position in all that is connected with the early history of this country, and excavations within its area will be always watched with interest from the chances given for the discovery of objects calculated to throw light on the habits and customs of the many amalgamated tribes and races of men who lived and died there so many centuries ago. The practice of burying with the dead personal ornaments and relics worn and prized by the deceased when living often illustrates more than any written testimony the inner life of the ancients; and in studying the form, the method of manufacture, and the material selected for a simple every-day ornament like a bracelet or necklace, we may trace an association between the inhabitants of different countries, possibly far removed from one another, and the connection between them difficult to be accounted for. Among the beads referred to are some which have attracted the notice of Major J. G. Bale, A.R.I.B.A., reminding him of similar objects still prized and worn by the natives of Africa. In a note from him upon the subject he observes that what are known as Aggri beads are usually met with among the tribes on the Gold Coast, are highly valued by them, and form part of the royal jewels of the Kings of Ashantee; their manufacture is a lost art, and generally supposed to be of ancient Phœnician origin; they have probably been given in barter for slaves, gold dust and nuggets; they fetch at the present day an equal weight in gold, and the rarer sorts one-and-a-half to twice their weight in gold dust. They appear to be of various earths, of great purity and richness of colour, arranged in patterns or distinctively traverse the substance of the bead from the outside to its centre or axis, and are burned together with a brilliant baked glaze on the surface; this vitreous property, in

some instances, partly extends to the substance of the bead, giving a translucent appearance. Such as are blue like the sea, under certain conditions of tropical light, and with a white spotted pattern that resemble jelly-fish in the sea swimming at various depths, are much prized for their rarity and beauty; the prevalent colours are yellow, of a brimstone tint, chocolate, dark purple, white, green, and red, all separate in the pattern, and no indications of blending. In shape and size they are commonly like sections of the stem of a "church-warden" tobacco-pipe, in lengths of half to three-quarters of an inch; some are square, with angles chamfered or slightly rounded, a few round or shaped like an orange, and occasionally met with in segments of a circle, which, being strung together, form finger rings and bracelets: these are the most minute in the pattern, and formed with accuracy and precision in workmanship.

The local belief is that they are natural gems formed in the ground, from the fact of their being occasionally dug up where all traces of human occupation of the soil have disappeared, it being the native custom to bury the dead with valuables or gold dust sprinkled on the face according to rank or wealth. The bodies of slaves were buried with a necklace of Aggri beads attached. Slaves were also sold with these trinkets and shipped to the West Indies, and in the Island of Barbadoes the beads were to be found in the burial grounds for slaves on the estates.

The beads in the museum at Colchester reminded Major Bale of the above; he remarks that though injured by damp and usage they are so like the genuine Aggri bead that they were possibly worn by African slaves employed as servants to the Romans, as there are existing traces on the west coast of Africa of these people having been known to the ancient Egyptians, Phœnicians, and Carthaginians.

From the foregoing description all who are familiar with the beautiful groups of coloured beads which are so commonly met with in Roman, and especially in Anglo-Saxon cemeteries, will at once recognise the resemblance between them and those which, according to Major Bale, are so highly prized in Africa. Similar beads have been taken from topes or burial mounds in Northern India. Dr. Schoolcraft also records the presence of polychrome beads in the graves of the Canadian Indians, which is to be accounted for, writes Mr. John Brent, F.S.A., by the supposition that they originally came from the East, through Scandinavia, and were brought to Canada in the eleventh century, when the Northmen made a temporary settlement in Vinland. They have also been found associated with sepulchral

remains in the Island of Islay; Mr. W. Campbell illustrates specimens taken by him from Viking graves in the course of excavations at Ballinaby. Similar beads were associated with a coin of Coenwulf, King of Mercia, in the eighth century.[1]

Though introduced into this country by the Romans the origin of this particular form of bead is probably to be sought for in the East. The Phœnicians were great in the art of glass-making and the manner in which they fused together, with tasteful patterns, the different colours selected is beautiful in the extreme. The spiral ornament, the stripes, zigzags, chevrons, and other forms familiar with the more luxurious in glass, became repeated, especially by the Romans and Saxons of later times, in earthenware or terra-cotta. The Egyptians also were manufacturers of similar beads at a very early period. Mr. Birch, in his recent edition of Sir Gardner Wilkinson's well-known work, figures an example of a glass bead bearing a queen's name of the XVIII dynasty, and belonging to a period as early as 1500 B.C. It was found at Thebes, and singularly enough, its specific gravity, viz., 2·523 is that of our crown glass, as now manufactured. He further quotes the representation of glass-blowing on the sepulchral paintings of Beni Hassan, where an illustration is given of a workman holding beads while another is boring them with a drill. Glass beads have been found in Switzerland, and so strongly do they resemble those of Egyptian or Phœnician make that they are considered as chronologically useful in determining the age of the Lake dwellings.

Of the subject generally I hope to speak in a future paper, for it possesses many points of interest; for example, the profusion which may be noticed in the use and application of certain substances to the purpose in one locality, which are rare, if not entirely absent, in another. Amber has been put to such a use for ages. The graves of Etruria, pointing as they do to a civilization which makes Rome itself seem young, abound in bracelets and necklaces formed of amber beads, yet, plentiful as it was on the shores of the Baltic, it lay disregarded by the Germans until Roman luxury gave it utility and a name. Tacitus speaks of its collection by certain tribes whose language resembled the British, and remarks upon the surprise they manifested at the price they were enabled to obtain for a substance for which they had hitherto no use.[2] Amber beads are the rule among British graves, so also with interments in Denmark and Scandinavia; it is also frequently met with among Egyptian, Greek, and Assyrian remains, but although a large number of beads of various kinds are described by Major di

[1] Proceedings "Soc. Antiquaries of Scotland," 1879-80, vol. ii, p. 67.
[2] De Mor, Germ., chap. xlv.

Cesnola as having been found by him in his recent excavations at Cyprus, he remarks on the total absence of amber as a circumstance worth noting. As regards Major Bale's suggestion that these variegated beads might have been worn by African slaves employed by the Roman colonists, we are reminded of the association which undoubtedly existed, and which is more than once referred to in classic literature. In the "Moretum" of Virgil is reference to a negress who appears as a house slave to a poor market gardener. On rising in the morning he calls to her to prepare his breakfast :—

> "Interdum clamat, Cybalen, erat unica custos,
> Afra genus, tota patriam testante figura,
> Torta comam labroque tumens, et fusca colorem,
> Pectore lata, jacens mammis, compressior alvo
> Cruribus exilis, spatiosa prodiga plantam."

The race is also mentioned in the last quarter of the third century. Vopiscus writes of the Blemmyes, viz., the Nubian blacks, as pouring into Central Egypt and becoming formidable enemies. They were included in the great triumph of Aurelian, where Zenobia walked in the procession. In similar honours to Probus, the Blemmyes also appear; their looks astonished the Romans—"Qui mirabilem sui visum stupente," &c., writes Vopiscus.

A further connection is also shown by certain of the legions being sent to Africa; at Lambœsa, a Numidian city, the third legion was stationed for no less than three hundred years, and during so long a period recruits would often be found among the native races. In some interesting remarks by the Rev. John McCaul, LL.D., upon a collection of inscriptions relative to longevity in ancient Africa, published by M. Léon Renier in the year 1858, reference is made to the manner in which the legions were so recruited, and attention is directed to the words "legione renovata" as indicating action in repairing the third legion; and other records go to show that in process of time the great majority of the corps were in reality natives of the country.

An interesting paper on Ancient Irish Beads and Amulets has been recently published by Mr. J. W. Knowles, a member of the Institute. He figures some beautiful examples of variegated beads lately found in Ireland; the glass specimens resemble in many particulars those commonly met with in this country, but there are points of difference which, if I am quoting the author correctly, lead him to the opinion that they are of native manufacture. He remarks on the prevailing theory that those found in Africa, in Europe, and the British Isles had a common source in Egypt or Phœnicia, and were carried along various

trade routes to countries far apart, and calls attention to the fact that the Irish beads are not only larger and more highly ornamental, but more numerous, than the English examples. He speaks of the "Aggry" beads at South Kensington Museum, which are thought to be of Phœnician origin, but it does not appear that he has met with any of a similar pattern in the course of his discoveries in Ireland.[1]

March 7th, 1882.

Major-General Pitt Rivers, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

For the Library.

From Sir John Lubbock, Bart., F.R.S.—Recent Discoveries at Notabile. By A. A. Caruana, D.D.
From the German Anthropological Society.—Archiv für Anthropologie. Band XIII, Supplement.
From L'Académie Royale des Sciences a Amsterdam.—Verslagen en Mededeelingen. Afd. Natuurkunde. 2e Rks. Dl. XVI.
—— Jaarboek, 1880.
—— Proces Verbaal, 1880–81.
From the University.—Calendar of the University of Tokio, 1880–81.
From the Academy.—Atti della R. Academia dei Lincei. Vol. VI, Fas. 6°.
From the Society.—Journal of the Society of Arts, Nos. 1527, 1528.
—— Proceedings of the Royal Geographical Society, March, 1882.
From the Conductor.—The Scientific Roll. Part I, No. 6.
From the Editor.—"Nature," Nos. 643, 644.
—— Revue Scientifique. T. XXIX, Nos. 8, 9.
—— Correspondenz Blatt. February, March, 1882.

Mr. E. T. Newton, F.G.S., exhibited a Romano-British Burial Urn, found in recent excavations in Cheapside, and containing portions of human bones, with fragments of green glass melted around them.

[1] *See* "Journ. Roy. Hist. and Arch. Assoc. of Ireland," July, 1881, vol. v, pp. 522-37.

Map of the ANDAMAN ISLANDS

Illustrating the

DISTRIBUTION OF THE TRIBES

English Miles 5 10 15 20 25 30

Geographical Miles 5 10 15 20 25 30

92° 30′ 93° 30′

0° 30′ 13° 30′ 12° 30′ 11° 30′

GREAT ANDAMAN

NORTH ANDAMAN

ÂKÀ-CHÂRIÀR (DA)

Saddle P. 2400 f.

Port Cornwallis

ÂKÀ-JÄRO (DA)

Interview Island

Sound Island

Stewart Sd.

MIDDLE ANDAMAN

ÂKÀ-KEDE (DA)

ÂKÀ-KÔL (DA)

Flat I.

Bârâ-kàbil

ÔKO-JÛWA I. (DA)

North Passage I.

Outram I.

Henry Lawrence I.

ÂKÀ-BÖJIG-YÂB (DA)

ÂKÀ-BÖJIG-YÂB (DA)

Port Campbell

Kyd I.

BÖJIGNGÎJI (DA)

SOUTH ANDAMAN

Port Blair

Ross I.

Port Mouat

Labyrinth Is.

North Sentinel

Rutland I.

Twins

Cinque Is.

Passage I.

Sisters

South Sentinel

Brothers

ARCHIPELAGO

Neill I.

Rose I.

Barren

JÄRAWA (DA)

LITTLE ANDAMAN

Explanation

Tribe	Situation	Name of Territory
Âkà Châriàr	North of North Andaman	Elâkà-Châriàr
Âkà Järo	South East Dº	Elâkà-Yâro
Âkà Kede	South West Dº North West of Middle Andaman and Interview Isld	Elâkà-Kede
Âkà Yêrewa	The above three Tribes collectively	Elâkà-Yêrewa
Âkà-Kôl	North East of Middle Andaman	Elâkà-Kôl
Ôko-Jûwa	West & Middle Dº	Kâpa-Tông
Âkà Böjig-Yâb	South & South East Dº	Châra-Jûru
Böjig-Ngîji	South Andaman	Elâkà-Bêa
Âkà Bal·awa	Archipelago	Elâr-Jûru
Järawa	Little Andaman the Sentinels & parts of South Andaman	Pâtàng

The noun termination da should be added to the above names when used alone, thus Âkà-Kôl (da)
These names are all in the Böjngngîji language, the only one with which we are at present familiar.
Each Tribe has its own set of names for the tribes, and each speaks a separate dialect of its own.

92° 30′ Longitude East 93° 30′

From the Journal of the Royal Geographical Soc 1880.

Edwd Weller

Dr. J. G. GARSON exhibited and described an Andamanese Skeleton, upon which Professor Flower made some remarks.

Mr. E. H. MAN read the following paper:—

On the ABORIGINAL INHABITANTS *of the* ANDAMAN ISLANDS. (Part I.) By E. H. MAN, Esq., F.R.G.S., &c.

[WITH PLATES VI AND VII.[1]]

WHEN I last had the honour of addressing you (*vide* "Journ. Anthrop. Inst.," vol. xi, p. 268), I endeavoured to give an outline of various points of ethnological interest concerning the aboriginal inhabitants of the Andaman Islands. I propose this evening, and, with your permission, on some future occasion, to enter more into detail, both with regard to their physical characteristics and their culture; merely remarking by way of preface that on those points in regard to which I am compelled, in the interests of truth and science, to contradict the accounts of previous writers, I have been especially careful to corroborate all my statements, in which endeavour I have been greatly assisted, and would here acknowledge gratefully the invaluable help afforded me, by the small volume published a few years ago by the British Association for the Advancement of Science with the object of aiding travellers and others in their researches among savage and uncivilised nations,—indeed I may say that I have worked almost entirely upon the lines therein laid down.

As mentioned in my previous paper, read in May last, I succeeded in acquiring a fair knowledge of the South Andaman dialect, and, during the eleven years I passed at the Andamans, had charge, for a period extending over four years, of the government homes established with a view of reclaiming these people, as far as possible, from their savage state. I was thus thrown much in contact with them, and had special opportunities of observing each peculiarity, whether of physique, or of habits, customs, &c., to some of which I shall be able to direct your attention by means of the photographs which I have brought for your inspection, and by the lime-light illustrations with which I purpose to conclude my remarks this evening.

Before speaking of our recently acquired knowledge regarding the race, let us glance back for a moment to our earliest information as to the islands, and to the probable origin of the name "Andaman."

[1] Plates VIII and IX will be issued with the next Part of Anthropological Journal.

In the records of certain Arabian travellers of the 9th century we appear to find the first mention that is made of these islands being inhabited by negritos, and Marco Polo, some four hundred years later, bears out their statement, while it would seem that the islands themselves were known to Ptolemy, who speaks of a group in the Bay of Bengal as *Insulæ bonæ fortunæ.*

As regards the derivation of the name "Andaman," there seems to be some uncertainty. Colonel Yule, in his well known work on Marco Polo, mentions that, to his knowledge, Nicolo Conti, who calls it the "Island of Gold," is the only person who has attempted to give it a meaning. Colonel Yule's suggestion is that Angamanain (the name used by Marco Polo) is an Arabic (oblique) dual indicating "The Two Andamans," viz., The Great and The Little, while the origin of the name (Angaman) may be traced to Ptolemy's reference to these islands, which he describes as those of *Good Fortune*, *Ἀγαθοῦ δαίμονος*, whence may have sprung the forms Agdaman, Angaman, and ultimately Andaman.

With regard to the origin of the race, many conflicting opinions have, from time to time, been entertained; but, from the knowledge we now possess, the questions raised on the following points may, I think, be considered as more or less satisfactorily set at rest, viz.:—

I. That they are Negritos, *not* Papuans.[1]

II. That they are the original inhabitants, whose occupancy dates from pre-historic times; and that racial affinity—if there be any—may possibly some day be found to exist between them and the Semangs of the Malayan Peninsula,[2] or the Aëtas of the Philippine Islands.[3]

III. That all the tribes, as at present known to us, undoubtedly belong to the same race, and are of unmixed origin, the differences which occur among them being attributable as much to their constitutional peculiarities of jealousy and distrust in all dealings with strangers as to the natural barriers

[1] Figuier speaks of them as "pure Papuans, whose isolated position has kept them from intermixture with other races."

[2] *Vide* Wallace's "Malay Archipelago," 2nd Ed., vol. ii, pp. 278-79, and "Journ. Indian Archipelago," vol. iv, p. 427.

[3] If similarity of moral and social characteristics afforded a sufficient basis in ethnological researches among races not otherwise widely distinguished, a theory of affinity between the extinct negroid race of Tasmanians and the Andamanese might be regarded as not altogether untenable, for the descriptions given of the former by some writers are found applicable in many particulars to the race under consideration; notably is this the case in the account given by Mr. J. E. Calder, which I have deemed of sufficient interest in this connection to make a somewhat lengthy extract, and this will form the subject of one of the Appendices. (*Vide* Appendix D.)

presented by their densely wooded and hilly country, which facts have combined to isolate the various communities, and to check freedom of intercourse among them; further, in the case of Little Andaman, it may fairly be assumed that the peculiar bee-hive form of their huts, as well as certain modifications of their domestic habits and customs, have been borrowed from their neighbours, the Car Nicobarese, upon whom, in the last century, they made some hostile raids.

IV. That, in spite of all our endeavours to protect them, contact with civilisation has been marked with the usual lamentable result of reducing the aboriginal population; indeed, the death-rate, among those within the area of our influence, during the past twenty years has so far exceeded the birth-rate, as to compel the belief that before many decades have passed, the race, at least that portion of it which inhabits Great Andaman, will be well nigh extinct.

In view of their probable early extermination, and the rapidity with which they are being meantime reduced to the standard of civilised manners, it seems very desirable that, ere it be too late, all possible information respecting their habits, customs, physical characteristics, etc., should be obtained, more especially as many of the errors which, excusably enough, found their way into the early accounts, having been allowed to pass unchallenged, are accepted as trustworthy, and false ethnological theories are built on these most imperfect bases.

Almost all accounts which have been written regarding these islanders speak of them as *Mincopies*, in explanation of which it is asserted that it is thus "these people style themselves;" but this is far from being the case, for not only is the name, or any at all resembling it, unknown to the *bōjig-ngīji-*,[1] *i.e.*, the inhabitants of South Andaman, but the other six tribes with which we are acquainted are in a like state of ignorance as to its origin and significance. The only sounds at all approximating it in the South Andaman dialect at the present day being *min kuich!* (come here!) and *kămin kăpi!* (stand here!). The former of these being in common use may have given rise to the term (*Mincopie*) as a nickname, to which, indeed, it may possibly have borne a more striking similarity of sound in the language spoken at the period when this name was first adopted; for each generation cannot fail to produce changes more remarkable, and even of greater importance in the phonology of an unwritten language, such as this, depending as

[1] For the list of symbols adopted for denoting the sounds in this language see Appendix A; this list has been finally adopted in accordance with the kind advice of Mr. A. J. Ellis, F.R.S., whose valuable assistance I would here again gratefully acknowledge

it must entirely on the delicacy of ear, and correctness of individual articulation.

The following remarks, except where otherwise specified, must be understood as referring to the eight tribes of Great Andaman, for the continued and inveterate hostility with which the inhabitants of Little Andaman, known as *jărawa-*, have hitherto met all our advances and attempts to establish an *entente cordiale* has rendered it extremely difficult to obtain, much less substantiate, any information concerning them.

Form and Size.—1. Those here present who have studied the various accounts which have appeared regarding the physical characteristics of the Andamanese, cannot fail to have been struck with their divergence. For the sake of those, however, to whom the race is comparatively unknown, I trust they will bear with me while I quote, on the subject of their form and size, a few writers, commencing with the Mahomedan travellers of the ninth century, already mentioned, who stated that "their complexion is black, their hair frizzled, their countenance and eyes frightful, their feet very large and almost a cubit in length, and they go quite naked;" while Marco Polo (cir. 1285) appears to have been still less favourably impressed, for he says "the people . . . . are no better than wild beasts, and I assure you all the men of this island of Angamanain have heads like dogs, and teeth and eyes likewise; in fact, in the face, they are all just like big mastiff dogs!" Next we find Colonel Colebrooke, towards the close of the last century, describing "their limbs as ill-formed and slender, their bellies prominent, and, like the Africans, as having woolly heads, thick lips, and flat noses." In opposition to the foregoing we have Dr. Mouat, than whom no better judge could be desired, giving it as his opinion, that "they are the most perfectly formed little beings in existence. In proportion to their size, their general framework is well constructed, and their limbs present a remarkably good muscular development, and . . . . the whole form is as elegant as that of any European," in which opinion he is supported by the eminent craniologist, Dr. J. Barnard Davis, recently deceased, who, after careful study of a number of Andamanese skulls and skeletons, affirmed that they were "most beautifully proportioned."[1]

2. From my own observations I would remark, that though it is quite true that there are found among them individuals whose "abdomens are protuberant,[2] and whose limbs are dispropor-

[1] A peculiarity which I have observed is that the males have in many cases as marked a bend in the small of the back as the females. (*Vide* figure on the left of group in Plate IX, Fig 1.)

[2] "From childhood they cram their stomachs with an immense amount of bulky food in a short period, and they do literally 'swell visibly' after their

tionately slender," such persons no more represent the general type of the race, than the sickly inmates of a London hospital can be regarded as fair specimens of the average Englishman; in point of fact the remark which is commonly made by strangers who see them for the first time, is, "how well these savages are developed." In confirmation of this I would refer you to the photographs, and table of weights and measurements of forty-eight male, and forty-one female adults, which I have prepared,[1] being persuaded that more correct information can be obtained by such means than from any verbal description, however minute and careful.

3. Although the Mahomedan travellers, a thousand years ago, described their feet as "very large, and almost a cubit in length," my observations and measurements go to prove that their feet, as well as their hands and ears, are small and well-shaped; the heel in some cases projects slightly, but never to the extent peculiar to negro races.

4. Dr. Dobson, in his valuable paper "On the Andamans and Andamanese," which was published in this Institute's Journal (vol. iv, p. 464), alleges the existence of a "remarkable contrast between the size of the males and females;"[2] but the example, which he cites in proof, of *mai'a bô'ra* and his wife, was quite exceptional, for this man, whom we nicknamed "Moriarty," like many of the Andaman chiefs, was as much above, as his ebon consort was below, the ordinary stature of the race. From the illustrations and lists of measurements, to which reference has already been made, it will be found that the average height of the men is 4 feet $10\frac{3}{4}$ inches, and of the women 4 feet $7\frac{1}{4}$ inches,[3] while their average weight is $98\frac{1}{8}$ lbs. and $93\frac{1}{4}$ lbs. respectively—results which cannot be said to indicate a striking disparity between the sexes.

meals. This distended abdominal condition is noticeable in children of both sexes; but as the lads grow up, they take more exercise, and their abdominal, as well as other muscles, become firmer and retain the mechanical distension of the belly. With the women it is different; these latter influences do not exist." . . . . ("Remarks on the Aborigines of the Andaman Islands," by Surgeon E. S. Brander, late 2nd Medical Officer, Port Blair.)

[1] *Vide* Appendix C.

[2] The following extract from an article in the *Bombay Gazette* of 2nd August, 1881, by an officer stationed for about a year at the Andamans, will show what opposite conclusions are arrived at by those who are content to trust to the accuracy of their individual judgment without reference to actual measurements:—"The women . . . are on the whole bigger than the men, who are, however, particularly well made."

[3]

		ft. in.
Maximum height of the males measured was		5·1¼.
,, ,,	females ,,	4·11½.
Minimum .	males .	4 5½
,, ,,	females .	4 4

5. The old statement, so often repeated, that their stature never exceeds 5 feet, must also be noticed, as the list in question shows that fourteen of the forty-eight males who were measured were slightly above that height. I would add, that on a visit paid to North Andaman, about two years ago, by Colonel Cadell, V.C., the present Chief Commissioner, an *.âkà-.châ'riàr-* was seen whose height was estimated at about 5 feet 8 inches; but this must be regarded as very remarkable and exceptional, for the tallest specimen of the race, that had till then been met with, was a chief standing 5 feet $4\frac{1}{4}$ inches.

6. In consequence of their early marriages, the cares of maternity, and the nature of the duties which devolve upon them, the women soon lose the graceful figures which many of them possess in their youth, and they often, in their maturer years, become so obese as to be objects of wonder to Europeans.[1]

Anatomy and Physiology.—1. With the view of forming some idea of the average temperature and rates of pulse and respiration per minute, five youths, fair representatives of the race, were examined, with the following results:—

No.	Age.	Temperature under the axilla.*	Rate per minute		Remarks.
			of pulse.	of respiration.	
1	22	96·9	56	19	The subjects were at rest and in the shade, and had not eaten for several hours previously.
2	20	97·8	62	22	
3	18	97·8	64	24	* The bulb was left undisturbed for five minutes.
4	16	97·8	64	21	
5	17	98·3	74	20	

Colour.—1. Their skin is naturally smooth, and greasy to the touch, and there is little or no hair or down over the surface,[2] and, with regard to its colour, by the aid of reflected light it has been found that not only are there several shades of colour among this race, ranging between bronze or dark copper colour, sooty, and black, but also that in individuals the complexion of the face and body are different. The distinctions are, however, so slight as to be unnoticed by the people themselves.

2. The results of careful observation go to prove that these

[1] Surgeon Brander, in the paper referred to in the preceding footnote, remarks, that "this condition, I should think, is induced partly by the absence of any proper abdominal support during pregnancy, and is partly due to the distension their stomachs habitually undergo after food."

[2] Even under the axilla it is rarely found, and then only very scantily, but a certain amount of tufted hair is not wanting about the genitals.

variations in colour are not confined within certain tribal limits, but are alike found in all, whether living inland or on the coast; and it would therefore appear that the cause is not attributable to diet, habits, or, indeed, to any external circumstance.

3. The opinion expressed on this subject by Dr. Mouat was that "their hue is remarkably black and lustrous;" while Surgeon-Major Hodder[1] describes them as "extremely black, more so than the African negro, and some have a dull leaden hue like that of a black-leaded stove." In this latter remark I fully concur; indeed, the simile strikes me as an exceedingly happy one, and as exactly expressing the predominating colour of their skin.

4. On examining a number of individuals, and comparing the colour of their skin and eyes with the standard tables prepared by the late M. Broca, it was found that the skin of the face and shoulders of the majority corresponded most nearly with No. 42, the variations tending towards 27 and 28, while that of the trunk, in the generality of cases, agreed with No. 27, and in certain others with No. 49. The prevailing hue of the eyes was found to be most closely represented by No. 16, one exception, which had to be classed under No. 1, being found among those tested.

Odour.—1. The ammoniacal, rancid, goat-like exhalations of the negro are not found among them, and the peculiarity of odour which attaches to their persons is chiefly due to the unguent, called *kòi'ob-da*,[2] composed of red oxide of iron mixed with either turtle or pig's fat, with which they delight to paint themselves. When in health, and under ordinary circumstances, their breath is sweet.[3]

Anatomy and Physiology (*continued*).—2. Their powers of abstinence from solid food have never, to our knowledge, been severely tested; but it has been noticed that, on rare occasions, when forced to make a long day's journey through the jungles without a halt, they are in the habit of binding a strip of bark or other substance round their waists, to reduce, as much as possible, the inconvenience and pain which are caused by what they consider a long fast. Whether in exercise or repose they

[1] *Vide* "Pall Mall Budget," 20th April, 1877.

[2] Substantives, adjectives, and many adverbs have the termination "da," which, as mentioned in my previous paper, I believe to be traceable to the defective or partially obsolete verb, *ēdā'ke*, to be: it is dropped before prepositions and in construction generally, but is usually heard when the word occurs alone. Hence, when I write a hyphen at the end of an Andamanese word, I shall mean that in its full form it has *da*.

[3] It is, nevertheless, commonly noticed, that after feasting on turtle and certain kinds of fish, they are unpleasant neighbours, their breath and hands being then highly odoriferous.

cannot apparently abstain from food without inconvenience for more than eight hours at a time.

3. When exerting themselves in any way they perspire freely, which may account for their inordinate thirst. So great, indeed, is their inability to endure any privation in respect to drink, that they seldom leave home on the shortest expedition, whether by land or sea, without providing themselves with one or more bamboo vessels, called *gōb-*, containing a supply of fresh water.

4. Loss of sleep they can bear well only when under the influence of strong excitement, as in turtle hunting, or at festive gatherings, where singing and dancing are kept up for many successive hours[1]; they have even been known to spend forty-eight hours at such times without taking any rest.

5. What little cool weather there is in the latitude of their islands, during December and January, they dislike extremely; in striking evidence of this they are found, as I will elsewhere mention, unconsciously concurring with the great Italian poet in depicting the region of punishment, for the souls of the wicked, as one of intense cold. After this, it will appear somewhat strange to say that, in spite of their aversion to what they consider cold weather—which never registers less than 69° F. on the highest elevation in South Andaman—they are careful, during the hot season, to avoid any lengthened exposure to the direct rays of the sun, and endeavour to lessen the discomfort caused by the heat by smearing their persons with a white-wash of common white clay and water.[2] It has long been erroneously believed that they have recourse to this expedient in order to allay the inconvenience which they would otherwise suffer from the bites of mosquitoes and other jungle pests; but the true reason for the practice is, I am well assured, that which I have above given, for the various insects which might annoy them are, for the most part, kept away by the smoke of the hut fire beside which a great portion of their time is spent when at rest, or when engaged in any sedentary occupation.

6. The voices of the men are usually clear without being deep, while those of the women, especially when raised, are very shrill.

7. The mucous membrane of the mouth is stained with pigment to a greater degree than was found to be the case with such of the natives of India as were compared with them.

8. The general excellence of the teeth strikes one as remark-

[1] *Vide post* "Games and Amusements," paragraph 32.

[2] I would here draw attention to the fact, that while the object in smearing themselves with *ōg-* wash is to keep themselves as cool as possible, they often daub their bodies with *kòi·ob-* after sundown for the opposite reason, *i.e.*, for the sake of warmth.

able, for not only are no precautions taken for their preservation, but they are used roughly, small bones being broken by them, and food commonly eaten at almost boiling point. The grinding surface of the molars is generally much abraded: five or six tubercles are occasionally observed in the posterior molars, but are not all marked with equal distinctness; in some cases, indeed, they are scarcely distinguishable. The crowns of these teeth frequently present one long and comparatively even surface, and the peculiarity is of course due to the practice above referred to, of grinding hard substances with them. The canines are not longer or more prominent than the other teeth; caries appear to be rare, except with those well advanced in years. The front teeth of the lower jaw are generally the first cut: the first dentition is completed apparently at an earlier age than is usual among ourselves.

Hair.—1. Dr. Allen Thomson, F.R.S., who has kindly examined some of the hair microscopically, gives it as his opinion that the form of the transverse section is *oval*. Having, however, only a small quantity at his disposal, he has not been able to make a sufficient examination as yet, so he adds that, "it may be that some sections are oblique, but a number are certainly transverse, and none of them have a circular outline." In appearance it is extremely frizzly and seems to grow in spiral tufts,[1] but examination proves that the roots are uniformly distributed over the scalp: it is fine in texture and fairly abundant, but lustreless, and seldom more than two or three inches long, or five inches if the actual length when untwisted be measured; in a few instances it has been found to be eight or ten inches long, but the ends were matted, dead-like, and easily broken.

2. The majority of the women every week or ten days shave their heads almost entirely, leaving only two narrow parallel lines of hair, termed *gôr-*, from the crown to the nape of the neck. The *gôr-* is never allowed to exceed one-eighth of an inch in length; therefore, as they have no means of clipping it, it is constantly shaven off, and a fresh *gôr-* is made with the hair which has grown since the last operation.[2]

[1] Just ten years ago it was pointed out by Dr. J. Barnard Davis, F.R.S., that the delicate ribbon-like hair of these islanders is exactly similar to that of the now extinct race of Tasmanians ("Journ. Anthrop. Inst.," vol. II, p. 100).

[2] I would here call attention to some errors of the artist by whom Dr. Mouat's book was illustrated. He has represented the men as shaven and the women with their curly wigs intact, whereas it is the latter only who as a rule shave their heads; and they do not go about entirely nude, but wear leaves, as will be explained in another place (*vide post* "Psychology and Morals," para. 8, and "Attire," para. 3). They are further incorrectly represented in the same plate as using a gipsy's tripod for cooking purposes.

3. Though many of the men were and are in the habit of having their heads shaved like the women, the style of hair-dressing most affected by them before our arrival left only a circular patch of hair, about six or eight inches in diameter, like a skull cap, on the top of the head. Of late, however, they have indulged in many fanciful modes, such as shaving a piece about two or three inches broad between the forehead and the nape of the neck, or making a large tonsure. From this it will be seen that the Andamanese cannot be instanced as a tribe that "goes bald always," as has been asserted.[1]

4. Men will sometimes shave each other's heads, but only when the services of a woman are not available; for it is one of the duties of the fair sex in these tribes to act as barbers, regarding which fact I shall have occasion to make further reference at another time.

5. When, in consequence of its having attained an unusual length, the hair is found to be oppressively hot and difficult to clean, it is shaved off entirely or in part, clipping, as already mentioned, being impracticable, owing to the lack of a suitable instrument. On these occasions the eyebrows are generally removed, which explains Dr. Day's remark, that "they rarely have eyebrows."

6. With the exception of the eyelashes and eyebrows, which are of slight growth, hair is only occasionally seen on the face, and then but scantily and in patches on the upper lip and chin, where it has a tendency to grow in spiral tufts: as it is esteemed a decoration it is never shaved or depilated.

7. It has been rumoured[2] that there are tribes of a long-haired race on Interview and also on Rutland Islands; but, with regard to the former, none of the Northerners who have been to Port Blair have possessed this characteristic, or will allow that it is to be met with amongst their communities, while our relations with the inhabitants of the latter enable us to contradict the assertion, which, indeed, can only be explained by supposing that runaway convicts, who have frequently escaped thither, must have been mistaken for aborigines.

8. That baldness has been known among them may be assumed from their having a word in their language to express it, but such cases would appear to be of very rare occurrence since none have come under my notice.

9. It has been asserted that "they are in the habit of dyeing their hair with red ochre"; but, whatever may have been the custom in former times, this is certainly not now the case, as they never intentionally interfere with the natural colour, but

[1] *Vide* "Anthropology," p. 238, by Dr. E. B. Tylor, F.R.S.
[2] "Encycl. Brit."

some of the pigment, *kòi·ob-*, with which they so frequently paint their persons sometimes accidentally adheres to their curly wigs, these being often used for wiping or drying their hands.

10. The colour of the hair among different individuals varies between black, greyish-black, and sooty, the last perhaps predominating; it is apparently uninfluenced by, and does not correspond with, the hue of the eye or skin; it commences to turn grey about the fortieth year, but the number of those who exceed that age being small, white hair is seldom seen.

Development and Decay.—1. The average length of life, owing to excessive infant mortality as well as to the small number that attain old age, can hardly be reckoned as much, if at all, beyond 22 years. Not more than three generations of the same family have ever been known to be alive at the same time.

2. Fifty years is believed to be the extreme limit of age among them, and the majority of those who attain it are women.

3. Judging from those whose births have been registered by us, it would seem that physical development takes place at a late age as compared with natives of India, the males not attaining puberty till about the 16th year, and the females not before the 15th,[1] while the maxima of stature and bulk are not reached till two or three years later; should the opinion thus formed be confirmed by further observations, the fact will serve to weaken the theories that have been advanced by some anthropologists to account for the phenomenon hitherto assumed to be of universal application, that "the period of immaturity is curtailed in inverse proportion to the approximation to the equator or the polar circle;"[2] but, as the same writer goes on to say, "probably the latitude of the abode has no reference to this phenomenon; it may more probably have some connection with the darkness of the skin."

4. Among the Andamanese, when the head is in the customary position, the line taken by a horizontal plane drawn through the *meatus auditorius* would, in most cases, pass through the apex of the facial angle, or, in exceptional cases, somewhat lower. I cannot entirely concur in the opinion expressed by Dr. Brander regarding the variety of the facial type found among them, as he says that "some faces seem to resemble the Negraic, some the Malayan, and some even the Aryan in character;" it is, however, a curious physiognomical fact, of which there can be little or no question, that a remarkable diversity in this respect *does* exist among them, though it is

[1] The extreme ages for child-bearing appear to be 16 and 35 years.
[2] Peschel.

hardly sufficient to admit of the inference, which might be drawn from the passage just quoted, and on which the incorrect theory might be based, as to their being of mixed descent. I would add that I observed, like Dr. Brander, that these differences are more noticeable among the males than among the females of the population.

Crosses.—1. In a footnote to his interesting paper on the Andamanese, Dr. Day mentions that "some have entirely smooth hair," and he suggests the probability of a portion of the race being of African origin or of mixed African descent.

2. With the exception of three children of mixed parentage,[1] none of whom survived more than seven or eight years, no examples are known of the existence of a cross-breed among these tribes; and, as none but these three children have been known to have had other than the frizzly hair which is one of the distinctive characteristics of the race, I have no doubt that Dr. Day either observed, or was informed of, the peculiarity occurring in their case, and his remarks must, therefore, be taken as applying only to them.

3. Not only would it have been impossible for us to have continued so long in ignorance of the existence of any individuals of this race who differed so widely from their fellow countrymen as to have smooth hair, but additional evidence is afforded by the denial of the Andamanese to every inquiry instituted on this point.

4. Another statement has been published which is also calculated to mislead; it is as follows:—"I agree with Mr. F. Day that the chief of Rutland Island is probably a native of India."[2] The chief here referred to, by name *maia .bīvela*, but generally called by us *mūnshī .bīvela*[3] (*vide* Plate VIII, fig. 2), was one of the best known, as he certainly was the most useful of all our aboriginal acquaintances. He was not only a thorough, though superior, specimen of the race, but his parents were so well known to be of pure Andamanese blood that his intimates were surprised to learn that a doubt regarding the purity of his descent should even for a moment have been entertained, and certainly I, and others who have for many years been associated with the man and his friends, see no grounds for regarding their statements on this point with the least suspicion.

5. Judging from the exceptional cases above mentioned of a cross-breed occurring among them, it seems improbable that the existence of a mixed race in their midst would be tolerated, for all three of the children met their death by violence or neglect,

[1] Hindoo fathers and Andamanese mothers.
[2] Dr. Dobson.
[3] He died of measles in April, 1877.

not at the hands of their mothers, but of the male members of the tribe.

Reproduction.—1. Marriages never take place till both parties have attained maturity, and generally not till a few years later; the usual age of the bridegroom varies from 18 to 22, and of the bride from 16 to 20. The result of inquiries tends to show that there is a slight predominance of female over male births; three or four is the average number of children born of the same parents. The largest family known consisted of six, three only of whom attained maturity.[1]

2. Twins are rare, and as no instance can be recalled of both surviving infancy, notwithstanding all possible care being bestowed on them, they are not favourably regarded. No case of triplets has been known to occur. Births out of wedlock are considered discreditable, and in the one known instance of the kind, the parents were married immediately after the event; no difference was made in the treatment which the child received.[2]

3. The limited fecundity of the women may in some measure be due to the circumstance that they never wean their babies, so long as they are able to suckle them, and it not unfrequently happens that the two youngest children are seen together at their mother's breast.[3]

4. The ill success in rearing their offspring is doubtless owing in most part to the injudicious management and petting which each of the mother's friends considers right to bestow on the infant. It is looked upon as a compliment for every woman who may be nursing, to relieve the mother of this duty at frequent intervals; it is, therefore, no matter of surprise that the little one ails and dies.

5. The proportion of deaths from violence and accident, is believed to amount to four or five per cent.

6. Barrenness is rare, as are also cases of stillborn children. No drugs or other contrivances are employed in order to increase or limit reproduction.

Abnormalities.—1. Excessive development of fat about the gluteal region is frequently observable among the adult women.

[1] It is said that more children are born during the rains than at any other season of the year.

[2] *Vide post* "Marriage," paragraph 4.

[3] On this subject Dr. Brander remarks as follows:—

"They mostly possess considerable mammary development, and the glands in many cases seem to be in a chronic state of functional activity. This may be due to the late period to which they suckle their young (even to three or four years), or to another purpose to which the milk is applied." . . . (*vide post*, "Shaving.") [As will be seen from Plate VIII, fig. 1, the mammæ are pyriform rather than spherical: with the advance of years they become flaccid and elongated.]

Dr. Dobson, in noticing a marked case of this kind, drew attention to the fact of its differing from steatopyga, thereby distinguishing them in this respect from Hottentots.

2. Albinism and polydactylism are unknown, and only one case of erythrism, and that of a faint type, has been observed, or is known to the natives of our acquaintance.[1]

3. No instance appears of obliquity of vision, of cleft palate, absence of teeth, or of supernumerary teeth, and only one of prognathism and hare-lip respectively. Cases of "Darwin's point" in the ear are constantly met with.

Pathology.—1. No idiots, maniacs, or lunatics have ever yet been observed among them, and this is not because those so afflicted are killed or confined by their fellows, for the greatest care and attention are invariably paid to the sick, aged, and helpless. Two or three cases of hunchback and lateral curvature of the spine have come under notice, but instances of the kind are evidently very rare.

2. It has often been observed, that though the Andamanese waste away very rapidly in sickness, they regain flesh with equal facility when convalescent; but, nevertheless, they possess so little vital power, that they readily succumb to diseases against which others usually struggle successfully[2]: indeed, they appear to suffer as much, if not more, than individuals of alien races from the febrile disorders—mainly attributable to malaria, so prevalent throughout these islands—which frequently lay the foundation of chest complaints, from which they rarely recover.

3. Pulmonary consumption and other forms of pectoral disease are among the chief causes of mortality among these tribes.[3] These disorders do not appear to be confined to, or to be more prevalent in, certain districts, but there is little doubt that they have been most frequent amongst those living in the homes provided for their benefit in and near our settlements in South Andaman.[4]

[1] In no other particular does this case appear to differ from the rest.

[2] This not only refers to maladies introduced by the alien population, such as measles, venereal diseases, &c., but to those complaints from which they suffered prior to the establishment of the settlement.

[3] In reference to complaints of this nature, it may interest some to know that Dr. De Jongh's cod liver oil was largely used in the homes, and with considerable benefit to the patients, several recoveries having resulted therefrom. From inquiry it would seem that cases of constipation are comparatively rare, and that diarrhœa is almost the habitual state of their excretory functions.

[4] As this circumstance was traced to the system of giving them clothes to be worn at our various stations, and when visited by Europeans, it was deemed advisable to modify the regulation and to supply them only with drawers, leaving the upper part of the body exposed. A marked improvement in the general health resulted from this change.

4. Epilepsy is a recognised form of malady, and is considered as peculiar to certain individuals, but the fits are not regarded in a superstitious light. Cutaneous diseases of a scaly character occasionally occur, but do not appear to be of a serious kind. Leprosy is as yet unknown among them. The physical pain caused by injuries seems less acute than that suffered under similar circumstances by Europeans, and all wounds, as a general rule, heal rapidly.

5. A few years ago (1877), an epidemic of ophthalmia occurred, principally among the people of South Andaman, and, during the few months it lasted, about fifty persons were attacked, many of whom suffered entire or partial loss of sight. The origin of the outbreak was obscured in doubt, and it does not appear that the disease was previously known to the aborigines.

6. They have never yet been afflicted with small-pox, and only once with measles, viz., in 1877, when it was computed that nearly 20 per cent. of the sufferers, who comprised a large proportion of the population, succumbed. This disease was introduced by a batch of convicts from Madras, who, in spite of all the precautions that were taken, communicated it to others in the settlement, from whom it spread to the Andamanese. The contagion spread to the people of Middle and North Andaman, but only those patients who were living within a few miles of our settlement could be attended to by our medical officers; the treatment to which the remainder had recourse, was that commonly adopted among them in fever cases.[1] The ravages committed by this epidemic among the unfortunate aborigines can only be compared, though on a small scale, to the effects of a similar outbreak among the Fijians, shortly after the annexation of their islands to the British Crown.[2]

[1] *Vide post* "Medicine," paragraph 2.

[2] Before leaving this part of my subject it is necessary to mention that, within the last eight years, they have been visited for the first time by that terrible scourge, syphilis, the introduction of which was traced to a few Indian convicts whose duties brought them much in contact with the aboriginal inmates of the homes; the ravages already committed have been most lamentable, and there seems now no hope of checking its spread throughout the various islands forming Great Andaman: this is due to a few of the original sufferers having refused to submit to the system of segregation which was determined upon at the principal home at Viper Island, where all those who were known to be affected were placed in a separate building. Although allowed every indulgence short of liberty to associate with those who were in health, a few of them found the restraint too irksome, and effected their escape one night by swimming from the island, and to them have been traced many fresh cases that subsequently occurred in various jungle encampments. Had it not been for this it might have been possible to confine the disease to those first affected (then numbering about 80), for after their isolation from the rest, no fresh cases occurred at Viper. Thus, unhappily, this terrible malady has now extended over a very considerable area, probably not less than two-thirds of Great Andaman. The rapid spread of the contagion has been greatly attributable to the almost universal practice which prevails

Medicine.—1. The diseases most common among these tribes are:—

1st, malarial fever (*did·dirya-*).
2nd, catarrh (*ngī·rib-*).
3rd, coughs (*ō·dag-*).
4th, rheumatism (*môl-*).
5th, phthisis.
6th, pneumonia.
7th, heart disease.[1]

2. In febrile complaints the treatment adopted by those living in the interior, and less frequently by the coast dwellers,[2] is the following:—A bed is made for the patient of the leaves of the *Trigonostemon longifolius* (*gū·gma-*), and his body is rubbed with these leaves, which are sometimes first boiled, while he sniffs at some crushed pieces of the same; after a time *chū·lnga-*[3] is given him to drink, and then with some of their patent ointment, *kòi·ob-*,[4] which is not used internally, as has been supposed,[5] the upper lip is painted and also the neck, if the invalid be married. When the fever is accompanied by pains in the chest or head, a *chàu·ga-tâ-*[6] is tied tightly round the part affected, as this is believed to act as a charm, internal pains being always ascribed to the malign influence of evil spirits. During the course of the fever, the patient is constantly rubbed with *gū·gma-* leaves by one or more friends who insist also upon his swallowing large quantities of *chū·lnga-*; scarifying is never practised at such times. As only a small proportion of cases of this kind have a fatal result, great faith is placed in the treatment above described, and, at all events, it is certain that no injurious effects are caused by it.

3. The first half of the rainy season is usually the most sickly time with them, as with ourselves, in regard to fever and bowel

among the women of suckling each other's infants; in fact many parents have thus become tainted with the disease, the characteristics of which have in almost every case been most strongly marked, presenting an interesting study to the medical officers who have had charge of the patients. Great benefit was derived from the treatment and remedies (mercury and iodide of potassium) usually employed in Europe, but time alone will show how far our efforts will avail to prevent the disease from infecting the entire population, if, indeed, it do not, as in certain parts of Australia, lead to the early extermination of the race.

[1] Because of the insidious nature, and (to them) mysterious origin, of the last three named diseases, they say that either *.ē·rem-chàu·gala* has shot the sufferer, or *.jū·ru-win-* has speared him: regarding these evil spirits further reference will be found at "Death and Burial" (paragraph 25), and "Religious Beliefs and Demonology" (paragraphs 12 and 14).

[2] The reason for this will be found under "Tribal Communities," paragraph 5.

[3] *Vide* Appendix B, No. 63.

[4] *Vide* Appendix B, No. 60.

[5] *Vide* Mouat, p 306.

[6] *Vide* Appendix B, No. 44.

affections. Those natives who have been long with us, have great faith in our medicines, especially in the efficacy of quinine for curing fever, from which, as exposure is very trying to their constitutions, they suffer greatly when living in the clearings we have made at Port Blair.

4. For a cold in the head they merely remain at home and nurse themselves, crouching over the fire; for a cough, sea-water is often drunk, or they will chew the thick portion of the long leaves of a plant called *jī·ni-* (of the *Alpinia* species), and when the bitter juice has been extracted and swallowed, tie the chewed fibre round the neck; if benefit be not derived from this, they then take a piece of the upper portion of the stem of the *Calamosagus laciniosus*, called *pôr-*, and, removing the bark, chew the rest, and swallow the sap. Many cures having been attributed to the wonderful properties of the two descriptions of *chū·lnga-*, one or two quarts daily are prescribed to the unhappy patient, until the cough leaves him.

5. In cases of rheumatism and paralysis, a *chàu·ga-tâ-* is tied round the parts affected, and *chū·lnga-*, moist, as found, is rubbed into them: if no relief is experienced within a day or so, warm water is poured over the suffering members, which are then shampooed; should no improvement result, even after these measures, recourse is had to scarification; this is done with a quartz or glass flake, by a woman, generally the wife or one near of kin to the sufferer. It has been noticed that but few of those who have been attacked by rheumatism in the jungle ever regain the full use of their limbs.

6. In phthisis, or when any internal organ is diseased, steps are taken by the friends of the patient to defeat the machinations of the evil one, to whom the victim's sufferings are attributed; to this end, one or more *chàu·ga-tâ-* are first fastened tightly over the seat of pain, a lump of black beeswax, *tō·bul-pid-*,[1] is then held over a fire till it begins to melt, when it is instantly applied, being passed rapidly over the flesh; the wax which adheres is not removed, but wears off in a few days. The patient is also subjected to pressure with the hands by a relative or friend of the same sex, while an attendant frequently sucks the skin. Scarification is the *dernier ressort* when the bad symptoms increase.[2]

7. Every attention is paid to the wants and wishes of the sick, and the friends do all in their power to effect recovery, but no charms, excepting the *chàu·ga-tâ-*, are employed in the hope of

[1] *Vide* Appendix B, No. 57.

[2] As many bad cases of lung disease among those in the homes have been successfully treated with cod liver oil, they have now great faith in that medicine.

averting or curing illness; after recovery, no ceremonies of purification take place.

8. With respect to these necklaces of human bones, it should be stated that it is not considered necessary that the bones used for this purpose should have belonged to an adult, those of a child or of one long since dead, are considered equally efficacious; the belief is that they cure diseases, and shield the wearer in some measure from the machinations of evil spirits, through the intervention of the disembodied spirit, who is supposed to be gratified by, and aware of, the respect thus paid to his memory. Loose teeth, obtained from human skulls and jaw bones, are sometimes strung together as necklaces, or, if too few for such a purpose, they are included among the pieces of bone which are broken up to form the *chàu·ga-tâ-*; turtle bones are also sometimes added under similar circumstances.

9. The skull and jawbone are carried, either separately or together, merely as mementoes, and are not accredited with any peculiar virtues.

10. During pregnancy, the women eat in moderation, but delight in as great a variety of food as possible, telling their husbands day by day what to procure for them[1]; they are also in the habit of taking as much active exercise as possible, as they believe it conduces to an easy *accouchement*, and the same reason is given for the custom, common among them, of consuming small quantities of *tâla-ōŋ-*[2] from time to time; but this practice may be traced with more probability to the fact that the appetite of persons in an anæmic condition is generally fanciful and depraved, such substances as "lime, chalk, or slate pencil being sometimes greedily devoured by them."

11. When about to be confined, the custom is for the husband, and some of the woman's female friends, to attend on her; she is placed in a sitting posture, the left leg is stretched out, and the right knee brought up, so as to enable her to clasp it with her arms. Her husband supports her back and presses her as desired, while her female friends hold a leaf screen, *kâ·pa-jâ·tŋga-* over the lower part of her person, and assist her, to the best of their ability, in the delivery and in the removal of the after-birth; the umbilical cord is severed by means of a *Cyrena* shell (now a steel blade is often used), and when the infant has been washed in cold water, its skin is gently scraped with the shell. Publicity is not courted on these occasions, as has been asserted,[3] but all, save those whose services are required, continue their occupations as usual. Soon after the delivery, some warm

[1] Further allusion to this subject will be made under "Tabu."
[2] *Vide* Appendix B, No. 58.
[3] *Vide* Mouat, p. 294.

water is given to the woman to drink; she is also fed with meat gravy, and the water in which shell or other fish have been boiled; after a time, should she desire it, fish, shell-fish, yams, or fruit are given her, but no meat.[1] During the first two or three days, she remains in a sitting posture, propped up by articles arranged so as to form a couch. As might be supposed, from the active habits and unsophisticated manners of these people, their women rarely suffer much during labour and child-birth; in fact, no instances of difficult delivery are known.[2]

12. For ear-ache, head-ache, and tooth-ache, recourse is had, in the first instance, to the *chàu'ga-tâ-*, then to scarification, should the pain continue and cause swelling,

13. In cases of skin disease, they afford relief, at least from irritation, by applying to the parts affected a large smooth stone, previously warmed over a fire.

14. When a wound is inflicted by a thorn, flint, shell, &c., hot water is poured over it from a *Cyrena* shell, which is then heated and applied to the part as hot as it can be borne; or, if the injury be slight, sea-bathing is prescribed, as it is said to expedite the healing process. In treating a boil, they scarify all round the swelling in order to reduce the inflammation, and afterwards bathe it with *chā'laga-* "lotion." This substance is also taken internally when suffering from dysentery, while for diarrhœa they swallow small quantities of a whitish clay, called *kôtrē'o-*.

15. The *larvæ* of bees found attached to honeycombs is eaten to correct constipation, or, if in season, the fruits of two trees, *ô'ropa-* and *chôb-*, which are much relished, and not without reason.

16. Their method of treating a case of epilepsy is to sprinkle the patient with cold water, and then to scarify his brow.

17. When bitten by a snake (especially a venomous one), if they succeed in killing it, they cut it open, and apply the kidney fat to the wound, rubbing it in for some time; should they fail in capturing the reptile, a ligament is tied above the bite, and the surrounding flesh is scarified. Deaths from snake bites, though not unknown, are rare. The late chief of the Middle Strait community died in a few hours from the bite of a certain tree snake called *tá'ga-jō'bo-*,[3] in September, 1878, and another

[1] During menstruation they abstain from pork, *Paradoxurus*, turtle, honey, and yams, and live upon certain varieties of fish, sour fruits, iguanas, and prawns.

[2] The custom known by the name of *couvade*, or the paternal lying-in, is quite unknown among the Andamanese.

[3] This snake is said to be the most deadly, after which the *lá'raba-* and *wára-jō'bo-* are the most dreaded. The last appears to be the *Opheophagus Elaps*. Further allusion to the *lá'raba-* and the *wá ra-jō'bo-* will be made under "Superstitions."

case of a similar kind occurred a few years since in McPherson's Strait. When bitten by a centipede on the leg or hand, urine is applied; less inconvenience seems to be caused by these injuries to the Andamanese than to the natives of other countries, although the insects are here larger than in many districts, measuring sometimes as much as eight inches. The scorpions, on the other hand, are small and comparatively innocuous; no attention is therefore paid to the bites they inflict.

18. Elephantiasis appears never to have occurred among them; but since seeing cases of this complaint among the Nicobarese, they have given it a name, *lâ·pi-*, from *lâ·pike*, to swell (as a bruise).

19. Bandages of leaves are applied to gunshot wounds, ulcers, fractures, sprains, or bruises.

Physiognomy.—1. When an Andamanese is in good spirits, his eyes sparkle and the surrounding skin is slightly wrinkled, while the corners of the mouth, which is partially opened, are drawn back; if he be in low spirits the eyes are directed to the ground, the forehead is transversely wrinkled in the centre, and the lips are closed, but the corners of the mouth are not depressed; under the influence of great grief the nostrils are observed to dilate.

2. In thinking deeply, or while endeavouring to understand the construction of some object, the eyes are fixed intently on it, and a slight elevation of the lower lid is noticeable.

3. Astonishment is expressed by the eyebrows being raised, the mouth opened a little and covered with the left hand, while the right hand is brought smartly to the left side just above the heart; a man will also, on being reminded of an unintentional omission to fulfil some promise, act either in this manner, or he will slap his thigh and then place the hand over his opened mouth. Women show their surprise (and also joy) by striking the thigh, which is raised for the purpose, with the open hand. To this practice may be attributed the mistaken notion entertained by an early writer,[1] that "their salutation is performed by lifting up a leg and smacking with their hand the lower part of the thigh."

4. Indications of slyness, guilt, and jealousy can be detected in the eye only.

5. Disgust is shown by throwing the head back, dilating the nostrils, drawing down the corners of the mouth, and slightly protruding the lower lip: no expiration is, however, made.

6. Shame is evinced by the head being averted, the eyes lowered, and the hands raised so as to conceal the portion of the face exposed to view.

[1] Colebrooke.

7. Defiance is expressed by raising and slightly averting the head, and slowly uttering the word *ârtâ·lō·g-ba*, which is equivalent to "try it on."

8. Women and children, when too frightened to run away, throw themselves on their faces on the ground and raise shrill cries, while men, under similar circumstances, show their alarm by falling backwards, with their hands uplifted, and their eyes rolling. Laughter is sometimes carried to such an extreme as to bring tears.

9. When very angry a man does not stamp his foot, but he places his left hand, palm uppermost, between his teeth, and glares fiercely at some object on the ground *near* the offender; he, at the same time, raises some weapon with his right hand, and utters, as well as the position of the other hand permits, words of terrible import.

10. A man, if threatening another, does not clench his fist, but will seize some weapon or missile, and express his intention of inflicting an injury with it.

11. A dogged or obstinate expression is indicated by averting the head, closing the lips, lowering the eyes, as if ignoring the presence of others, and frowning slightly.

12. When sneering, the teeth are clenched, the upper lip slightly curled, and the eyes are fixed on some object *near* the person addressed.

13. Children, when sulky, behave much as those in other lands, for they pout, frown, and utter noises which betoken discontent.

14. When a man wishes to show that he cannot prevent something being done, or cannot himself do something, he averts his head and pouts his lips, but does not shrug his shoulders.

15. In beckoning, the head is nodded vertically and a hand outstretched, the fingers with the knuckles uppermost being waved towards himself.

16. In affirmation the head is nodded vertically, in negation it is shaken laterally.

Motions.—1. The attitudes of these savages are usually easy; the body when in motion is fairly balanced, the leg, if standing, is straightened; the foot is usually evenly planted, with the toes turned slightly outward; when stalking game they go on tip-toe, but, as a rule, the gait is energetic only under momentary excitement. The average length of a man's pace on level ground is 29–30 inches, and of a woman's about 24 inches. The arms (which they swing when walking) are habitually held with the palms turned inward. If pointing to any object, they usually do so with one finger, and not with the open hand.

2. In climbing up a rope or large creeper they proceed hand over hand with great rapidity, assisted by the big and second

toes of each foot; if a tree is branched they will scramble up it almost as quickly as if scaling a ladder, and though when "swarming" a mast or cocoa-nut tree they clasp the trunk in the usual manner with the arms and legs, their movements are more rapid, and they are less easily fatigued, than are the generality of natives of India; in descending also they display the same activity.

3. I have observed a peculiar trick among young men and women, after a lengthened rest or after engaging in some sedentary occupation, of twisting their bodies from side to side in order to stretch the muscles of the back. In doing this they produce a succession of sounds like that caused by cracking the joints of one's fingers.

4. Their favourite position in taking temporary rest after any violent or prolonged exertion is the ordinary Oriental posture between sitting and standing, *i.e.*, squatting on their heels; if very much exhausted they either sit or lie down.

5. The usual attitude in sleep (*vide* Plate IX, fig. 2) is to lie on one side, preferably the right, with the knees bent so as to allow of the hand of the upper arm being placed between the thighs and the other hand under the head, which is raised on some impromptu pillow, such as a bundle or a roll of sleeping mat.

6. Many are able to shut one eye without closing the other, but they do not appear to possess the power of moving the ears or scalp. They can extend one finger without opening the hand. No tricks of sleight of hand are known to, or attempted by them.

7. Much use is made of the feet in holding and in picking up light objects, and the great toe is in a considerable degree opposable. When a heavy load has to be moved they prefer pushing to dragging it.[1]

Physical Powers and Senses.—1. Though for a short distance heavier loads are often borne, the maximum of a man's burden is about 40 lbs.; this he will on occasion carry for as much as 15 miles through the jungles between sunrise and sunset, a distance rarely exceeded in one day under any circumstances, or for more than two or three days in succession. This has been particularly remarked when they have been in pursuit of runaway convicts, for, if they fail in coming up with them within the third day, they are wont to take a long rest, unless strong inducements are offered by way of inciting them to further efforts.

[1] They do not understand, or, at least, do not carry into practice the principle of pushing or dragging a weight *simultaneously*, whether in silence or to the sound of the voice.

2. Unlike the natives of India, the men allow scarce any weight to rest on the head; the entire strain is thrown on the shoulders and back by passing the cord to which the load is attached across the chest. As this mode would with women be attended with inconvenience on account of the *chīp-*,[1] besides causing injury to the breasts, the cord is in their case brought over the head,[2] and the back is bent in order to reduce the pressure.

3. In his account of a visit to the Nágá Hills, about ten years ago,[3] Mr. S. E. Peal makes allusion to the "peculiar noise, like a whistle or note on a flute, clear and plain, and seeming to come from the chest, made by Nágánis when carrying loads and distressed." The same peculiarity is noticeable under similar circumstances among the Andamanese of *both* sexes.

4. Running is seldom practised by them except for a short distance when hunting, &c., and four or five hundred yards appears to be the greatest extent of ground they can cover without halting or slackening speed. Though in running or walking on a good road they are generally passed without difficulty by natives of India, their superiority in the jungles is at once manifest when the beaten track is left; and, in the ease and rapidity with which they are able to bound over rocks, fallen trees, mangrove roots, and other obstacles, few, if any, would care, or be able, to compete with them.

5. Both coastmen and "junglees" are, as a rule, gifted with extremely keen sight. It was, however, found impossible to gauge their powers by the test papers[4] in consequence of their inability to count; but many satisfactory proofs of their acuteness of vision have been afforded, as, for instance, by the manner in which, while coasting along the shore or when threading their way through the jungle, they detect birds or other objects, so hidden by the dense foliage of their forests as to be hardly distinguishable, even when pointed out, to more than ordinarily sharp-eyed Europeans and others.

6. The inland tribes have especially keen scent, and are able from an almost incredible distance to specify, and direct their steps towards, any particular tree that may happen to be in blossom; their sense of taste is also strongly developed, enabling them to discriminate between the various flowers from which the bees have produced their honey.

7. On the other hand, while the coastmen are not deficient in

[1] *Vide* Appendix B, No. 24.

[2] A peculiarity in the conformation of the female skull due to this practice will be hereafter noted, under the heading of "Deformations."

[3] *Vide* "Journ. Asiat. Soc. Bengal," vol xli, part 1, 1872.

[4] Viz, those used in the Army for recruiting purposes

these points, they are found to surpass the natives of the interior in their sense of hearing, which is so acute that they commonly spear turtles on the darkest nights, though able to direct their aim only by the slight sound made by the animal when rising to the surface to take breath. "*.ng'ab-mū'lwa-*" (you deaf person!) is a term of reproach often applied by the coast people to those dwelling inland, in allusion to the admitted inferiority of the latter in this respect.

Psychology and Morals.—1. It has been remarked with regret by all interested in the race, that intercourse with the alien population has, generally speaking, prejudically affected their morals; and that the candour, veracity, and self-reliance they manifest in their savage and untutored state are, when they become associated with foreigners, to a great extent lost, and habits of untruthfulness, dependence, and sloth engendered.

2. Though there are some grounds for the opinion hitherto held regarding their fearlessness, our more recent relations with them prove that the surprising courage and apparent utter recklessness of life which they manifested in their early encounters with us were due rather to their ignorance of, and disbelief in, any foe more powerful than themselves, or with means of destruction more deadly than their own. Probably nothing short of despair or uncontrollable rage would ever induce any of them to make an attack in which they have not a decided advantage, real or imaginary. All is regarded as fair in war, and cunning and treachery are considered worthy of commendation; in short, the high type of courage common among most civilised, and a few savage, nations appears to be totally lacking among the Andamanese; nevertheless, those who evince courage are much admired, and poltroons are objects of general ridicule.[1] When apprized of the existence of danger, they usually evince extreme caution, and only venture upon an attack when well assured, that, by their superior numbers, they can put the enemy to flight, or will be able, by stratagem, to surprise and overpower him.

3. At the same time certain traits which have been noticeable in their dealings with us would give colour to the belief that they are not altogether lacking in the sense of honour, and have some faint idea of the meaning of justice. An amusing incident is related by Dr. Day on this point. It appears that on a certain

[1] Their conduct on occasions of personal risk is, however, generally governed by the consideration that "discretion is the better part of valour," and that

> "He who fights and runs away,
> May live to fight another day."

They thus resemble the South Sea islanders spoken of by Sir J. Lubbock who, "though not cowards, regard it as much less disgraceful to run away from an enemy with whole bones than to fight and be wounded."

occasion "they brought in some escaped convicts, whom, however, they first plundered, besides removing every bit of iron from the boat in which they had escaped. On being taxed with this they at first pleaded surprise, then said they would make restitution, and brought a canoe as an exchange for the mischief they had done to the government boat. At first this was not quite understood and the canoe was sent back, but they returned it next day, explaining that they desired it to be kept as a reimbursement for the injury they had done to the government boat, so no longer considered the canoe theirs."

4. As another example of the same kind:—when the present penal colony at Port Blair was first established, the aborigines were observed to refrain from shooting at any of the chain-gang prisoners, evidently judging that they at least could not be voluntary invaders of their territory, and to confine their hostility to the petty officers and others not in chains, till these at last, finding themselves in constant danger, sought and obtained permission to carry on their duties in fetters.[1]

5. Much mutual affection is displayed in their social relations, and, in their dealings with strangers, the same characteristic is observable when once a good understanding has been established.

6. It is a noteworthy trait, and one that deserves high commendation, that every care and consideration are paid by all classes to the very young, the weak, the aged, and the helpless, and these, being made special objects of interest and attention, invariably fare better in regard to the comforts and necessaries of daily life than any of the otherwise more fortunate members of the community.

7. Andamanese children are reproved for being impudent and forward, but discipline is not enforced by corporal punish-

[1] It may not be unworthy of notice to record here yet another instance of generosity of disposition displayed by one of these savages. In January, 1877, a party of 24 *Bhíl* convicts effected their escape: all but some 11 or 12 were soon re-captured. Those still at large proved desperate, showing by their murderous assault on some aborigines, who had unconsciously approached their hiding place in the jungle, that they were prepared to resist capture at all hazards. The chief "*mūnshī*" *.bī·ela* (*vide* Plate VIII, fig. 2) thereupon headed a party of his tribe and some policemen, and, in spite of the parched condition of the soil—it being then late in February—succeeded in tracking the runaways, who had penetrated several miles into an unfrequented part of the jungle. Refusing to surrender themselves they were attacked, with the result that all were either captured or shot down. On being asked by the Chief Commissioner what reward would be most acceptable for the service the aborigines had performed on this occasion, *.bī·ela* replied that he would prefer to anything else that the Chief Commissioner should remit the remaining portion of the six months' sentence passed on four members of a Middle Andaman tribe, who, a few months before, had been convicted of shooting, at Kyd Island, some Chinamen engaged in collecting edible birds' nests. The prisoners were almost unknown to *.bī·ela*, and their release, therefore, could no more have concerned him personally than did their punishment. His request was granted.

ment; they are early taught to be generous and self-denying, and the special object of the fasting period, regarding which I shall hope to speak to you on another occasion, seems to be to test the fortitude and powers of endurance of the lads and lasses before entering upon the cares and responsibilities of married life. The duties of showing respect and hospitality to friends and visitors being impressed upon them from their early years, all guests are well treated; every attention is paid to their wants, the best food at their host's disposal is set before them, and, ere they take their leave, some tokens of regard or goodwill are bestowed, or, to speak more correctly, interchanged. Strangers visiting an encampment for the first time are welcomed if introduced by some mutual friend.[1]

8. It has been observed by ethnologists who have described certain other primitive races, that modesty and morality are not dependent on, or to be gauged by, the amount of covering which is deemed requisite by either sex. The Andamanese present another instance in point; and in the esteem in which they hold these virtues, and the self-respect which characterises their intercourse with each other, may even be said to compare favourably with that existing in certain ranks among civilised races.[2]

9. In the manufacture of their weapons, utensils, and other articles, they habitually display a remarkable amount of perseverance and industry, spending hour after hour in laboriously striking pieces of iron with a stone hammer for the purpose of forming spear or arrow-heads, or in improving the shape of a bow, &c., even though there be no necessity, immediate or prospective, to stimulate them to such efforts. The incentive is evidently a spirit of emulation, each one priding himself on being able to produce work which will excel, or at least compare not unfavourably with, that of his neighbours.

10. Selfishness is not among their characteristics, for they frequently make presents of the best that they possess, and do not reserve, much less make, weapons, &c., of superior workmanship for their own private use; at the same time it must be

[1] On seeing a stranger at a gathering, it would be asked: *ōl mij·a?* (who is he?) or, if the visitor be senior to the inquirer, *ōl mij·ola?* (who is that elder or chief?)

[2] Women are so modest that they will not renew their leaf aprons in the presence of one another, but retire to a secluded spot for this purpose; even when parting with one of their *bōd-* appendages to a female friend the delicacy they manifest for the feelings of the bystanders in their mode of removing it almost amounts to prudishness. Coarse conversation appears to be of rare occurrence and to meet with little or no encouragement. Remarks on the personal appearance or peculiarities of friends or blood relatives are considered harmless, but if made in reference to a wife or husband would be regarded as indelicate and objectionable, and resented accordingly.

confessed that it is tacitly understood that an equivalent should be rendered for every gift.

11. Certain psychological affinities between them and the Papuans having been pointed out in my last paper renders it unnecessary for me again to draw your attention to these points.

12. When out of temper with anyone they never defame his relatives or use improper expressions, as is so common a practice among natives of India, but merely indulge in mild terms of abuse, such as the following:—

ng'ab-ted·inga tâ·paya! (You liar!)
ng'ūn-lâ·maya! (You duffer!)
ng'ūn-jū·bugya! or *ng'ab-mūgutigpī·chaya!* (You fool!)
ng'i-chô·na! (You long head!)
ng'ig-chô·ronga-lâ·nta! (You long nose!)
ng'id-pâ·namaya! (You sunken-eyed one!)
ng'id-kī·nabya! or *ng'ī-gō·robya!* (You skin and bone!)

A quarrel, as may be supposed, generally results from this style of address.[1]

13. With the exception of those who have lived with us away from their friends from birth or early childhood, not a case can be cited in which a preference is not manifested for a jungle life, even after a sojourn of many years at the Orphanage or Homes at Port Blair.

14. Opportunities for comparing the mental capacity of the children with those of other races have been few, but these have tended to show that, up to the age of 12 or 14, they possess quite as much intelligence as ordinary middle-class children of civilised races when competing in subjects in which they have been instructed in common; but the precociousness of intellect which has so often been remarked in the very young does not appear to be long maintained. Dr. Brander, who was for some time in charge of the Andaman Hospital, gave it as his opinion, that as a race "they are not deficient in brain power; it rather lies dormant and unused in their savage state;" and he mentions the case of an aboriginal patient of 12 years of age, who had been educated in the Ross Orphanage School, and who, in spite of his tender years, could yet read English and Urdu fluently, as well as speak and write in both these languages, retaining also a knowledge of his mother tongue. He had, besides, acquired a fair knowledge of arithmetic. I may add that this is not an exceptional case, for I could instance others, and one lad in particular, who was his superior.

15. More lengthened observations than have hitherto been

[1] *Vide post* "Laws," paragraph 1.

possible are required before we can speak with certainty regarding the extent, limits, and conditions of heredity among this race; but it has been noticed that, as a general rule, they have excellent memories, especially on those subjects in which the intellects of their ancestors have been consciously or unconsciously exercised or cultivated in the savage state. The following passage will afford an illustration of the intelligence displayed by these people on such subjects. It is taken from the late Mr. Kurz's Report on the Vegetation of the Andaman Islands:—"While I was in the Andamans I was in the habit of consulting people (convicts) from the most different parts of India for the native names of the plants. As a general result, I may state that the Burmans were best acquainted with the flora of the Andamans, but they are by no means equal to the Andamanese in accuracy and certainty of determination. While the Burmans were obliged continually to cut into the bark to recognise the trees, the Andamanese readily gave their names, and I could rely upon their statements, which was not the case at all with those of the Burmese."

16. Instances have been observed among them of individuals possessing strong wills and vivid powers of imagination: as a race they do not appear to be subject to trances, illusions, or somnambulism, but, like many other savages, they place implicit faith in dreams, shaping their conduct in superstitious conformity to the warning or advice supposed to have been conveyed therein.

Magic and Witchcraft.—1. There are, however, as I mentioned in my last paper, certain individuals in these tribes, known as *ôko-pai·ad-* (*lit.*, a dreamer), who are credited with the possession of supernatural powers, such as second sight, expressed by the term *àramū·ga-tâ·rabanga-*, and of a mysterious influence over the fortunes and lives of their neighbours. It is thought that they can bring trouble, sickness, and death upon those who fail to evince their belief in them in some substantial form[1]; they thus generally manage to obtain the best of everything, for it is considered foolhardy to deny them, and they do not scruple to ask for any article to which they may take a fancy.

2. These quasi-seers are invariably of the male sex, and it sometimes even happens that a young boy is looked upon as a "coming" *ôko-pai·ad-*, their position being generally in the first instance attained by relating an extraordinary dream, the details

[1] This reminds one somewhat of the disease makers of Tanna (New Hebrides), who are supposed to cause disease and death by burning *nahak* (rubbish, principally refuse of food), and who are propitiated by continual presents. The practice of burning beeswax, in order to cause injury to an enemy, will be mentioned under "Superstitions," para 13.

of which are declared to have been borne out subsequently by some unforeseen event, as, for instance, a sudden death by accident.

3. In order to maintain his status it is necessary for an *ôko-paiˑad-* to give fresh evidences of his powers from time to time, for, so long as his companions have faith in him, he is the constant recipient of presents of all kinds, which are unblushingly given[1] and accepted as bribes to curry favour.

4. Sometimes, owing to the multiplicity of these gifts, it is inconvenient to the *ôko-paiˑad-* to take charge of them; he then enters into an arrangement with the donors that such articles as he does not at present need shall be available for his use or appropriation whenever he may require them; hence many individuals possess property which is said to be *râˑdare* (*i.e.*, bespoken) by a certain seer, and which is, therefore, not available for presentation to anyone else.

5. If a disaster occur which they think might have been averted had the *ôko-paiˑad-* chosen to exercise his powers, they are said sometimes to conspire to kill him, but so greatly is he feared that not a single instance is known of anyone having ventured to carry such a plan into execution.

6. The position and influence possessed by a seer are not affected by his falling ill, but if some serious misfortune occur to him, such as the death of a child, it is looked upon as a sign that his power is waning, or that he has at least lost a portion of it; they, however, continue to stand in awe of him unless, as time passes, he fails to afford further proof of his supposed superiority. His wife enjoys no distinction, nor is she treated with more respect and consideration than any other woman of the like age in the tribe.

7. The *ôko-paiˑad-* is credited with the power of communicating in dreams with the invisible powers of good and evil, and also of seeing the spirits of the departed, or of those who are ill. On the occurrence of an epidemic in an encampment, he brandishes a burning log, and bids the evil spirit keep at a distance; sometimes, as a further precaution, he plants stakes a few feet high in front of each hut, painted in stripes with black beeswax (*tōˑbul-pūd-*), the smell of which being peculiarly offensive to this demon, called *.ēˑrem-chàwˑgala*, insures his speedy departure from their midst.

8. Though we may be disposed to question the belief of the *ôko-paiˑad-*s themselves in the supernatural powers they profess to possess, it is quite possible that they, like sorcerers in other

[1] Especially is this done by those advanced in years for fear of their end being hastened by the *ôko-paiˑad-* whom they fail to propitiate.

savage tribes,[1] imagine themselves gifted with superior wisdom, and can hardly be blamed if they endeavour to turn their talents to account by imposing a little on the credulity of their neighbours.

Tribal Distribution.—1. As I stated in my previous paper, the inhabitants of these islands are divided into at least nine tribes,[2] linguistically distinguished, even if we reckon as one those communities to which I have already alluded under the title of *jărawa-*, among whom it is not improbable further divisions and dialects may eventually be discovered.

2. The conjecture that they are one is merely based on the assertions of the people of South Andaman, and on the circumstance that all the weapons, utensils, huts, &c., of the *jărawa-*, which we have been able to examine, appear to be constructed invariably on the same model, while all such members of the various scattered communities as we have had the opportunity of observing, resemble each other in abstaining from the practice, so general among all the eight Great Andaman tribes, of shaving their heads and tattooing their persons. Still, these outward similarities are manifestly insufficient, affording as they do mere negative evidence, whereas our present knowledge, so tardily acquired, of there being inland communities, called *ē̆rem-tâ̆ga-*, dwelling in the heart of South and Middle Andaman, who are allied in all respects, save in their mode of life, with the *ârŷô̆to-*, or coast communities of their respective tribes, would seem to justify the belief that hereafter the aborigines of Little Andaman will be found to present not only distinctions of this nature but differences also of dialect, as is the case with the inhabitants of both North and Middle Andaman, which are known to be divided into no less than six tribes.

3. As to the numerical strength of these several tribes it is impossible to speak with any degree of certainty, for, as you are aware, there is no part of the country which is not covered with jungle, more or less impenetrable to any but the aborigines themselves, while their capacity for estimating and expressing numbers is wholly inadequate to assist us in forming any conclusions on the subject. The surmise that the entire group contains about 4,000 souls is based on the calculation that the *.bō̆jĭg-ngŭ̆ji-* tribe with whom we are most intimate do not at the present day exceed 400, though at the time of our advent in 1858, they are believed to have numbered about 1,000.

Topography.—1. The chief geographical landmarks of these islands are :—

[1] *Vide* Lubbock ("On the Origin of Civilisation." &c. 4th Ed., pp. 250–1.

[2] For the names of the various tribes, and the localities they occupy, the reader is referred to the accompanying map (Plate VI).

1st. *Saddle Peak*, a massive hill rising to the height of 2,400 feet, situated in North Andaman, and visible at a distance of 60 miles.

2nd. *Narcondam*,[1] a small hilly island, containing an extinct volcano, with an elevation of 2,150 feet, lying about 70 miles east of North Andaman.

3rd. *Barren Island*, 75 miles S.S.W. of *Narcondam*, and about 42 miles east of the nearest island of the Great Andaman group, from no portion of the coast of which is it visible. It contains an active volcano, the height of which is about 800 feet.

2. Until recent years[2] the first only of these was known to the aborigines, probably owing to the circumstance that they, at least the natives of Great Andaman, have never been seen to venture far out to sea in their frail and clumsy canoes. The name borne by this hill is *.pū·luga lâ·kà bang-* (*lit.*, Creator his mouth), referring apparently to its size and inaccessibility, and to a large ravine running down its side. There is also a belief that Saddle Peak was the place of *.pū·luga-*'s residence prior to the deluge.

3. The formation of rocks, valleys, hills, &c., they attribute to the will of *.pū·luga-*, but they assign the sources of the streams containing oxide of iron, *kòi·ob-chū·luga-*, and the olive-coloured mineral, *chū·lnga-*, to the action of a poisonous snake, called *lâ·raba-*, well known to them.[3]

4. The names they give to the natural forms of land and water are as follows :—

Cape (point)—*tô·ko-chô·ronga-* [*chô·ronga-* = nose].
Isthmus—*tô·to-kī·nab-* [*kī·nab-* = waist].
Mountain—*bô·roïn-*.
Valley—*pâ·rag-*.
Strait—*teg-pâ·rag-*.
Coast (shore)—*īgô·ra-* [*gō·ra-* = strong].
Fore-shore—*kē·wad-* and *bô·roga-*.
Island—*tàrchô·na-*.
Islet—*tōt-kai·cha-*.
Harbour—*clà rū·la-*.
Bay—*kō·bunga-*.
Creek—*jīy-*.[4]

The probable derivation of this name will be given in my next paper.

[2] Since amicable relations have been established with the South and Middle Andamanese, several members of these tribes have visited Barren Island by accompanying us in the station steamer. The name by which it is now known to them is *.móla-tàrchó na* (*lit.*, Smoke Island), in allusion to the smoke which is almost always to be seen rising from the volcano and which they account for by saying that it must be due to a fire which *pū luga-* kindled.

[3] *Vide post* "Superstitions," paragraph 21.

[4] The legendary belief regarding the formation of creeks will be found under "Mythology."

Arithmetic.—1. The utter hopelessness of obtaining from the aborigines any correct idea of the population of the tribes individually and collectively will be readily understood when it is stated that the only numerals in the language are those for denoting "one" and "two," and that they have absolutely no word to express specifically any higher figures, but indulge in some such vague term as "several," "many," "numerous," "innumerable," which seem to convey to their minds an approximate idea of the number intended, but fail to satisfy the requirements of the statistician.[1]

2. When anxious to express a certain small number with exactness, as, for example, nine, the nose is tapped with the tips of the fingers in successive order, and, commencing with the little finger of either hand, "*ū·ba-tū·l-*," (one) is said; with the next finger "*ĭkpô·r-*" (two), after which with each successive finger "*an-kā·*" (and this) is uttered. When the forefinger of the second hand is reached both are held up, and, the thumb of the second hand being clenched, the necessary number of digits is exposed to view, whereupon the word "*àrdū·ru-*" (all) is pronounced.

3. If ten be the number in question—and this is the highest numeral they attempt to indicate by this or any other method—on reaching the thumb of the second hand, both hands, before being held up, are brought together and then is said, as in the former case, "*àrdū·ru-*."

4. To express "one," they hold up the forefinger of either hand and utter the word *ū·ba-tū·l-* or *ū·ba-dō·ya-*: to denote "two" they hold up the first two fingers and say "*ĭkpô·r-*."

5. The toes are never used in counting, nor are pebbles, grains, or notches in a stick ever so employed. When it is stated that only the more intelligent are in the habit of computing by even the primitive method I have here described, it is somewhat remarkable to find that their system of denoting ordinals is more comprehensive, as will be seen by reference to Appendix E.

6. Before their comparatively recent acquaintance with us, they had not the faintest knowledge of the existence of even the

[1] With regard to human beings, to express a small number, say, from 10 to 20, *à dū·ru-*would be used, while a somewhat greater number would be implied by the use of *jeg-chàu·-* (*lit.*, collected body), and a still greater assemblage, say of 50 persons, by *jī·baba*, beyond which number *at-ū·baba*, would be used. These words may be translated in a rising scale as follows :—

àraū·ru-, several; *jeg-chàu·-*, many; *jī·baba*, very many; *at-ū·baba* (or *ū·baba*), innumerable.

As regards animals and inanimate objects the words *àrdu·ru-* implying many, and *ōt-ūbaba* (or *ū·baba*), innumerable, are generally used, and sometimes *jī·baba* denoting very many.

neighbouring coast of Burmah, much less of the world at large, and consequently imagined that their islands formed almost the entire terrene area, and that they themselves comprised the bulk of the inhabitants.

7. The few voyagers who from time to time ventured near their shores were regarded as deceased ancestors, who, by some dispensation, had been permitted to re-visit the earth, and who were supposed to live on some small island in the vicinity of their *ē·rema-*, *i.e.*, world. In confirmation of this may be cited the name by which natives of India are to this day called, viz., *chàw·gala-* (*lit.*, departed spirits).

Etymology.—1. From the following list of some of the numerous encampments of the natives of South Andaman,[1] it will be observed that the names are usually derived from some circumstance peculiar to the spot, or from some tree overshadowing the site:—

.tâ-bô·roga-, coral (*tâ-*), shore (*bô·roga-*).
.tigbang-, rock-hole, there being at that place a hole in a large rock through which a canoe can pass.
.tàrmū·gu-.[2] West (island).
.yū·kala-chàng-, grassy (*yū·kala-*), camp (*chàng-*).
.dū·mla-paicha-òng-, anchorage (*òng-*), in neighbourhood (*paicha-*), of the (*la*), *Dūm-* tree.
.lē·kera-bar·nga-, a row (*bar·nga-*) of *Lēkera-* trees.
.ūdala lâr chū·lnga-, the spring (*chū·lnga-*), at the (*lâr*, *lit.* of the) *.ūdala-* tree (*Pandanus ceras*).
.chē·la-dô·k·nga-, the dragging (*dô·k·nga-*) of the ship (*chē·lewa-*). A ship was once wrecked there.
.būd lōt degranga-. Defeat camp; the defeat (*degranga-*) at the (*lōt*, *lit* of the) camp (*būd-*). There was once a severe fight there.

2. There are a few place-names which are unintelligible to the present inhabitants, *e.g.*, *.lū·rwa-*, *.tū·rubūn-*, though it is believed that they conveyed a meaning to former generations. Many of the names show an old, but unmistakeable form of the present language, while others, again, might be judged to be of recent adoption, but they are not so in point of fact.

Tribal Communities.—1. It is no matter of surprise that, during the *first* years of our present occupation, when our acquaintance with the aborigines was so limited, we should

[1] A fairly complete list of the names of these encampments, and the meanings of the greater number of them, will be found in a short paper, entitled "Note on two Maps of the Andaman Islands," by E. H. Man and R. C. Temple, which was published in the "Journal of the Royal Geographical Society," 1880.

[2] *Vide* "Astronomy," paragraph 5. (*West*, the disappearing face place.)

have failed to learn that there are permanent encampments and kitchen-middens in the heart of the jungles of Great Andaman; but, since it has been recently asserted in a paper[1] by one of the officers long resident at Port Blair, that, to quote his words, "No tribe of Negritos in the same stage of existence . . . . as the Andamanese could exist in the Andaman jungles," it is very necessary to expose his error, for repeated inquiries and personal observation prove the accuracy of the account given by one of the inhabitants of the interior of Middle Andaman, named *Wō·i*, that during the entire year the jungles afford them ample sustenance.[2]

2. All the tribes with which we are acquainted possess terms denoting—1, a coastman; 2, a fisherman; 3, a creek-man; and 4, a jungle-man; the two former being applied to those living by the shore, *àryô·to-*, and the two latter to those living inland, *ē·remtâ·ga-*, whose subsistence depends on the spontaneous products of the jungle, which they all agree in describing as amply sufficient for the support of many times their present population.

3. The coastmen are divided into two classes, viz., those who are chiefly employed in constructing canoes, turtle-lines, &c., and those who are engaged in fishing and turtling, but each acquires a certain knowledge of the duties of the other, and also of hunting the *Sus Andamanensis:* in the latter accomplishment, as well as in finding their way through trackless portions of the jungle, they are naturally surpassed by the natives of the interior, who display in these, as in other respects, all the dexterity and intelligence peculiar to savages similarly situated in other tropical regions.[3]

4. Although these two distinct sections (*àryô·to-* and *ē·remtâ·ga-*) still exist in a measure among the *.bō·jig-ngī·ji-*, as among the people of Middle Andaman, many of their more marked characteristics have become so blended or modified, in consequence of the establishment of the homes, that it is difficult in many cases to determine to which class certain individuals originally belonged. This, it will be understood, is because those of the *ē·remtâ·ga-*, who have accompanied parties of the coastmen in

[1] *Vide* "Proceedings Asiat. Soc. Bengal," July, 1876.

[2] With reference to the above, Mr. W. T. Blanford, F.R.S., remarked at the meeting at which the paper in question was read, that "it is very difficult for a civilised human being to understand how savages live, or even to conceive what a marvellous variety of animal and vegetable productions on which savage man, at any rate, can subsist, are to be found in the forests of all tropical regions." He added, that it was his belief that "man could certainly find food wherever monkeys could exist."

[3] *Vide* "Physical Powers and Senses," paragraphs 5 and 6, and "Communications," &c., paragraphs 4 and 6.

fishing and turtling expeditions, at one or other of the homes, for several years, have become sufficiently skilled in these pursuits to escape the ridicule of the genuine *àryô·to-*, while these in their turn have made themselves almost as well acquainted with the interior of the jungles as were the original occupants, from whom they are, therefore, scarcely distinguishable.

5. It will be of interest to note in this place the nicknames employed by the "junglees" and the coastmen when quizzing each other, as they serve to indicate the peculiarities which are held to be their distinguishing characteristics. The *ē·remtâ·ga-* sometimes chaffingly address an *àryô·to-* as *ēr-chât·tâkŋga-*,[1] *i.e.*, one who loses his way; *ēr-lō·iŋga-ba*, *i.e.*, one who cannot find his way in the jungle; or, *ān-pâg-ī kŋga-ba*, *i.e.*, one who cannot follow tracks; while the terms which the coastmen will, under similar circumstances, employ towards the jungle men are *ab-mā·lwa-* and *gū·gma-tòng-*, the first implying a deaf person, for only the practised ear of an *àryô·to* can judge of the distance of a turtle so correctly as to be able to harpoon it in pitch darkness; the second meaning "leaf of the *Trigonostemon longifolius*," in allusion to the practice, current among the inland tribes,[2] of using these leaves for the cure of fever, but to which the *àryô·to-*, rarely have recourse, as they believe the scent prevents turtles from approaching a canoe in which there are any persons who have recently employed this remedy.

6. As I have before stated, the intermingling of the members of the inland and coast communities in and near our settlement has naturally resulted in such a marked modification of many of the characteristics which distinguish them in their primitive condition that, for reliable information respecting the same, it is necessary to seek among the more distant encampments, where similar influences have not as yet been at work.

7. Amongst those who have now for some years resided at the principal home at Port Blair, there is a young *ē·remtâ·ga-*, named *Wō·i*, of the *.ôko-jū·wai-* tribe, who, till the end of 1875, had been living in the depths of the Middle Andaman jungle, and who then, with a few others of his village, received a message from *mai·a Jīpa*, chief of *bàrlâ·kàbūl-*, an encampment on the coast, inviting them to accompany him in a trip he was about to make, by way of Port Mouat, for the purpose of seeing the officer in charge of the home, and procuring some presents from him. *Wō·i* and his friends gladly availed themselves of the opportunity of visiting what must have been to them a new

[1] By way of mock respect *mai·a* (*i.e.*, Mr.) is occasionally prefixed to these epithets when used in this way.

[2] *Vide* "Medicine," para 2

world: on their arrival at Viper Island, they saw, for the first time, Europeans, and a mode of living of which they could have previously formed no idea. *Wō·i*'s companions returned to their tribe after spending a few months with us, but he, having lost his heart to one of the South Andaman houris, was without difficulty induced to remain behind, and settle down in our midst as a married man. As he speedily acquired a knowledge of the *.bōjig-ngī·ji-* dialect, we were enabled to question him on various points, besides those referred to in the statement of which I read you a translation last year,[1] and thus learned much that was before unknown concerning the habits of the inland branch of the *.ôko-jū·wai-* tribe: the information thus obtained, when compared with the result of our own observations of the customs and mode of living of the communities in the vicinity of our settlement, afforded convincing proof of the universality of the customs and practices of the respective classes of *àryô·to-* and *ē·remtâ·ga-* throughout Middle and South Andaman.

8. In Dr. Mouat's book mention is made of the capture of a youth, nicknamed "Jack," after a hostile encounter with some of the natives of Interview Island, from which circumstance it may be inferred that the lad belonged to the *.âkà-.ked·e-* tribe, only one member of which had, till 1879, stayed amongst us, and he is an *ē·remtâ·ga-*, who had travelled out of curiosity as far as Middle Strait, and from thence had been persuaded by the chief of that district to accompany him to Port Blair. He proved himself very intelligent and active in all jungle accomplishments, but was entirely ignorant of fishing and turtling. After remaining with us a few months he was taken (in March, 1879), at his own request, to a point on the north-west coast of Middle Andaman, and landed with a heap of presents: his home, he informed us, was situated midway between that place and the east coast.

Nomadism.—1. Nomadism appears to be almost, if not entirely, confined to the *àryô·to-*, and even among them there are hamlets which are only abandoned temporarily, as with the *ē·remtâ·ga-*, in consequence of a death, or of a *jeg-* (*i.e.*, "corroboree"), at some neighbouring encampment.

2. The nature of the temporary migrations which take place among the *ē·remtâ·ga-* during the dry season, as well as of those necessitated by a death, was explained in my rendering of *Wō·i*'s statement. In the case of the *àryô·to-*, migrations are occasioned by a variety of circumstances, as, for instance, fishing operations being rendered impossible by a change in the wind,

[1] *Vide* vol. xi, pp. 280-2.

the suitability of a particular spot for fishing and turtling during certain phases of the moon, on account of the character of the foreshore, or the configuration of the coast, and the hope of meeting with better luck elsewhere—to these might be added the love of a change, and the prospect of seeing some of their friends; but it must not be supposed that a long journey is thereby involved, the move being generally made to a spot only a mile or two further on, and thus, by short stages, they sometimes proceed along the entire coast-line of their tribal territory, spending a few days or weeks at each halting place, according to the special attractions it may happen to possess in affording good sport on land or sea, or in supplying a rich harvest of fruit, honey, &c.

3. The necessity of a migration is also frequently forced on them by the consequences of their neglect to sweep away the refuse of their meals, it being regarded by these *insouciant* and unclean creatures as not worth their while to take so much trouble, when only a short stay is contemplated.

4. That the necessity for observing *some* sanitary measures has long since been recognised by the Andamanese is evident from the existence of numerous kitchen-middens throughout their territory, many of which are doubtless of remote origin. These refuse-heaps are still in course of formation by communities living at a distance from Port Blair, and are invariably found near camping grounds which have been, or are still more or less, permanently occupied. In those sites, where they are not seen, evidence is at once afforded of the temporary nature of the occupancy: the rubbish and refuse of food in these latter places is only swept aside if the ground be needed for a dance, wedding, or other ceremony, so that injury may not befall the revellers through inadvertently treading on a bone, flint, or shell. Crows, hermit-crabs, and, of late years, dogs, are the principal scavengers of these ill-ordered and dirty habitations, the two former performing their useful office as soon as a migration takes place.

Habitations.—1. As in my last paper I only attempted to speak in general terms regarding the appearance and character of the three varieties of huts in ordinary use among the tribes of Great Andaman, it is necessary that I should here, at the cost of a little repetition, enter into a more detailed description regarding them.

2. To commence with the *chàng-tē-pinga-*, which is made by men, and erected in all permanent encampments as being the most durable. No particular kind of wood is used for the posts, which are four in number, two in front and two in rear, the former varying from six to nine feet in height, and the latter from two to three feet: upon these, slender rafters, and two

light tranverse poles, are secured so as to form the framework of the roof, which is thatched with palm leaves—the variety called *chà·ngta-*. These are neatly plaited together, and fastened with cane, *pī·dga-*, and then placed in rows and tied, so that, when complete, the whole forms a capital roof impervious to the heaviest shower of rain.

3. The second variety, *chàng-tô·rnga-*,[1] are erected when temporary homes are required, which will last for a few months, as during the period of mourning[2], they are made by men, and differ only from the *chàng-tē·pinga-*in being generally somewhat smaller, and less neatly thatched; another variety of palm leaf, called *âm-*, is sometimes substituted for the *chà·ngta-*.

4. The *chàng-du·ranga-*, or the third variety being only intended to serve as shelter during a halt or short visit, is constructed in a yet more simple manner. The duty of erecting dwellings of this class devolves on the women, and from the following description it will be seen that the labour required is not excessive: two slender posts, about five feet long, are driven into the ground about five or six feet apart, and connected by means of a light pole or stick, which is secured to their upper ends. The roof is then formed by placing, stem downwards and firmly fixed in the ground, large palm leaves, which are made to overlap each other in such a way as to provide a fairly rain-proof shelter for one or two persons. The leaves used for the purpose are either the *chà·ngta-*, *kâ·pa-*, or *â·para-* (*Areca triandra*).

5. Above the small fire, without which no hut is complete, a small wooden platform or shelf, called *châ·pa lī tâ·ga-*, or *yât leb tâ·ga-*, is placed on one or more sticks. On this they deposit their spare food, so that it may be preserved by the smoke from the attacks of insects, &c.[3] By way of adornment, trophies of the chase, such as the skulls of pigs,[4] turtles, dugongs, &c., are suspended from the front of the roof.[5]

6. It seems desirable to draw attention to the following passage in Dr. Dobson's paper, lest, if left unnoticed, some misapprehension should arise on the subject. He states that "the Andamanese, at least the inhabitants of the southern island, erect no kind of house whatever . . . . When walking along the beach in the vicinity of Port

[1] This variety is shown in Plate IX, fig. 2.

[2] *Vide post* "Death and Burial," paragraph 4.

[3] *Vide post* "Food," paragraph 31.

[4] This style of decoration is now-a-days falling into disuse, especially in South Andaman, for, with the assistance of dogs, hunting is much less arduous now than formerly, and a large collection of pig skulls is, therefore, easily obtained by the least skilful among them.

[5] Figuier speaks also of "large dried fish tied in bunches" being similarly treated, but no ground for such a statement can be discovered.

Mouat, I have often come across one of their temporary habitations, which consists of a hole scooped out in the sand, beneath an over-hanging rock, large enough to contain a single person." As these savages are *never* in the habit of sleeping on the sand, or in holes scooped in the ground, but on a mat, or leaves spread under one or other of the three varieties of huts described above, it is difficult to account for what Dr. Dobson saw, unless they were the resting places of ticket-of-leave fishermen or convict runaways. No other explanation than this could be given when some aborigines, and an experienced attendant at the homes, were questioned by me on the subject. One other solution only is possible, and that is, that the "holes scooped out in the sand" were the result of a game of mock burial, which, as I shall mention under "Games and Amusements," is rather a favourite recreation of the *àryô·to-* children.

7. The majority of the Great Andaman huts[1] partake of the character of a lean-to, the only respects in which the three varieties differ being—as I explained to you last year[2]—size and durability. They are found either standing alone, or, as is more especially the case in permanent encampments, so joined together as to form (at least, in their owners' eyes) a commodious as well as a weather-proof dwelling; and, constructed, as they usually are, in well-sheltered localities, away from the prevailing wind, they fulfil all the requirements of a savage home.

8. Permanent encampments vary in size, and consist of several huts, which in all are rarely inhabited by more than from 50 to 80 persons, though they are capable of affording accommodation, of a kind, to a much larger number if necessity arise as happens not unfrequently when festive tribal gatherings are arranged in honor of a wedding or other occasion of rejoicing.

9. The permanent encampments of the *àryô·to-* are established in those sites which offer special advantages for fishing and turtling at all seasons. Wherever there is a fine stretch of sandy beach, with an extensive foreshore, they will be invariably found, for, at such places, throughout the year the women are able at low tide to catch fish in pools with their hand-nets, and to collect large quantities of shell-fish; while, during the flood tides,

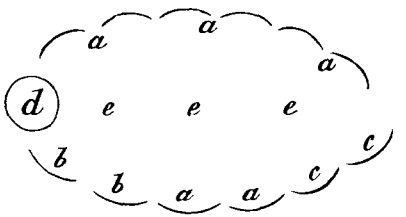
[1] One of the huts in the *jär·awa-* territory, between Port Blair and Port Campbell, when visited a few years ago, was found to measure 46 feet × 42 feet; and Mr. Homfray, in 1867, described the huts at Little Andaman as capable (*more Andamanico*) of accommodating 100 persons, being 50 feet in diameter and 30 feet in height. The leaf employed by this tribe for thatching purposes appears to be invariably the variety called *ám-* and not the *chà·ngta-*.

[2] The largest hut of the ordinary type is rarely found capable of accommodating more than six persons.

the men enjoy exceptional facilities for shooting fish and harpooning turtles, &c.

10. Although the sites selected for occupation are usually well-sheltered, it is not always found possible in tempestuous weather, even in the dense jungle which covers every portion of their country, to obtain shelter sufficient to allow of their huts being so placed as to face inwards towards the *bū·lum-*, or dancing ground. The primary consideration being naturally to secure as much comfort as possible, the sloping roof is at such times presented towards the prevailing wind.

11. The following diagram will give a general idea of the plan commonly adopted in laying out an encampment consisting of several huts, though the form depends much on the nature of the ground, and on the relative position of the surrounding trees, for they do not consider it worth their while to fell these, or to clear away anything but the lightest brushwood for the mere purpose of providing space for their huts, and dancing ground. Another point to be taken into account is the possibility of accidents being caused by falling branches, and, therefore, when erecting their frail dwellings, they are careful to guard against this danger as far as possible, and so much judgment do they display in this matter that accidents of this nature are comparatively unknown.



a. Married persons.[1]
b. Bachelors.[1]
c. Spinsters.[1]
d. Public cooking place.
e. Dancing ground (*bu·lum*).

Government.—1. The entire country is apportioned among the various tribes, and the territory occupied by each is considered the common property of all its members, and not as belonging exclusively to the chiefs.

2. Their domestic policy may be described as a communism modified by the authority, more or less nominal, of the chief. The head chief of a tribe is called *mai·a-iglā·-*, and the elders, or sub-chiefs, *i.e.*, those in authority over each community, consisting of from 20 to 50 individuals, *mai·ola*.

3. The head chief, who usually resides at a permanent

[1] Even at the homes they are careful to maintain this order, viz.: of placing the bachelors and spinsters at either end of the building, and the married couples in the space between.

encampment, has authority over all the sub-chiefs, but his power, like theirs, is very limited. It is exercised mainly in organising meetings between the various communities belonging to his tribe, and in exerting influence in all questions affecting the welfare of his followers. It is the chief alone, as may be supposed, who directs the movements of a party while on hunting or fishing expeditions, or when migrating. It is usually through his intervention that disputes are settled, but he possesses no power to punish or enforce obedience to his wishes, it being left to all alike to take the law into their own hands when aggrieved.

4. The *àryô·to-* and *ē·remtâ·ya-* in each tribe have their own head chief, who are independent the one of the other.

5. As might be assumed from the results of observations made of other savage races, whose sole or chief occupation consists in hunting or fishing, the power of the chiefs is very limited, and not necessarily hereditary, though, in the event of a grown-up son being left who was qualified for the post, he would, in most instances, be selected to succeed his father in preference to any other individual of equal efficiency.

6. At the death of a chief there is no difficulty in appointing a successor, there being always at least one who is considered his deputy or right-hand man. As they are usually, on these occasions, unanimous in their choice, no formal election takes place; however, should any be found to dissent, the question is decided by the wishes of the majority, it being always open to malcontents to transfer their allegiance to another chief, since there is no such thing as forced submission to the authority of one who is not a general favourite.

7. Social status being dependent not merely on the accident of relationship, but on skill in hunting, fishing, &c., and on a reputation for generosity and hospitality, the chiefs and elders are almost invariably superior in every respect to the rest. They and their wives are at liberty to enjoy immunity from the drudgery incidental to their mode of life, all such acts being voluntarily performed for them by the young unmarried persons living under their headship.

8. Though females, like minors (that is to say youths under 18), cannot be chiefs, the former have a similar position relatively among the women, to that held by their husbands among the men of the tribe. A chief's wife enjoys many privileges, especially if she be a mother, and in virtue of her husband's rank rules over all the young unmarried women and such also of the married ones as are not senior to herself. Should she become a widow she continues to exercise the same rights, unless she re-marries, when her social status depends on that of

her husband. In the event, however, of the widow of a chief being young and childless, she returns to the home of her maiden days, and is in a measure lost sight of, as she sinks to her former position.

9. It is believed by the people themselves that the system above described has prevailed among them from a remote period.

Covenants, Oaths, Ordeals.—1. No forms of covenant are to be traced in their dealings with one another, nor is there to be found among them anything of the nature of an oath or of an appeal to a higher power—as Heaven or the Sun—to punish breach of faith, or to bear witness to the truth.

2. They are in too primitive a state to possess any form of trial, or even to have any belief in the efficacy of an ordeal for discovering a guilty person; nor does it appear that any such practice existed in times past.

Laws.[1]—1. Justice, as I have already said, is administered by the simple method of allowing the aggrieved party to take the law into his own hands, which he usually does, either by flinging a burning faggot, or discharging an arrow at, or more frequently *near*, the offender, while all who may be present lose no time in beating a retreat, and—taking with them as much of their property as their haste will allow—remain in concealment until sufficient time has elapsed for the settlement of the quarrel. When such an affair seems imminent, and likely to be serious, friends often interpose, seize the disputants, and remove their weapons, which are not restored so long as there appears any risk of their misusing them.

2. Should a man kill his opponent nothing is necessarily said or done to him, though it is permissible for a friend or relative of the deceased to avenge his death; in most cases, however, the murderer succeeds in striking such terror in the minds of the community that no one ventures to assail him or even to express any disapprobation of his conduct while he is within hearing: as conscience, however, makes cowards of us all, the homicide, from prudential motives, not unfrequently absents himself till he is assured that the grief and indignation of his victim's friends have considerably abated.

3. These remarks do not now-a-days apply, to the same extent, to those living near us, for the terror inspired by the punishments inflicted in all cases of murder brought to our notice has resulted in materially diminishing crimes of this nature among them. In May, 1880, an Andamanese youth was hanged

[1] As regards laws (!) relating to inheritance, information will be found in a subsequent paper, under the heading of "Property," paragraph 3.

at Port Blair for the murder of one of his countrymen. He had previously, in 1878, been sentenced to imprisonment for the murder of two children of his tribe, and he committed his last crime soon after his discharge. This has hitherto been the only occasion on which any of these savages has suffered the extreme penalty of British law. It may be added that this last step was not taken until the unhappy wretch, as well as all his fellow-countrymen in South Andaman, had been repeatedly warned that no other than a capital sentence would in future be passed on those convicted of murder.

4. It is by no means an uncommon occurrence for a man, or even a boy, to vent his ill-temper, or show his resentment at any act, by destroying his own property as well as that of his neighbours, sparing only the things belonging exclusively to the chief, or other head man. The amount of damage done at such times, to canoes and other articles of more or less value, will often give occasion for several weeks' employment in repairing, and replacing to himself and his companions; but as these outbreaks are looked upon as the result of a temporary "possession," and the victim considered, for the time being, dangerous, and unaccountable for his actions, no one ventures to offer any opposition, or impose any restraint upon him.

5. Women, when in a rage, occasionally act in a similar manner towards one of their own sex, or even to all the females of the encampment, injuring or destroying their nets, baskets, and other articles; at other times they will seize a burning log, and, banging it furiously on the ground, vent their feelings by some such exclamation as *ng'iqmū'gu jā'bagike!* (May your face become hideous!); or they will struggle and fight till they are forcibly separated by the wife or daughter of their head man. They do not, however, attempt to settle their differences with the stronger sex, but leave it to their husbands or male relatives to obtain redress for their real, or fancied grievances.

6. When a chief or elder so far forgets himself as to lose his temper, those of his own standing betake themselves to their huts, while the other members of the community, male and female, beat a hasty retreat to some secluded spot, for no one would venture to find fault with one in authority, and with some reason, for little or no harm usually results to the community, while his own reputation is sure to suffer. Should he, however, wantonly cause loss or injury to any of his people, they would be pretty certain to take an early, though secret, opportunity of repaying him in kind.

Crime.—1. That outcome of civilisation, suicide, is unknown among them; but, since they have seen cases of self-murde among the alien population, they have coined a lengthy com-

pound word (*ō·yun-tē·mar-tô·liyanga-*) in order to express the nature of the act.

2. That they are not entirely devoid of moral consciousness may, I think, in some measure, be demonstrated by the fact of their possessing a word, *yūbda-*, signifying sin or wrong doing, which is used in connection with falsehood, theft, grave assault, murder, adultery, and — burning wax (!),[1] which deeds are believed to anger *.pū·luya-*, the Creator, of whom more will be said hereafter.[2]

3. Cases of adultery in their own villages are said to be of rare occurrence. If detected, the injured husband would probably inflict condign punishment on the guilty parties, but at the risk of retaliation on the part of the male offender and his friends; there appears, however, to be an understanding, that the greater the provocation offered the less is the risk incurred by the injured person or his friends in avenging the wrong, but no appeal to the chief for redress is ever made.

4. If an offence, such as an assault or theft, be committed by one or more members of another tribe during a visit or by stealth, it is regarded as premeditated, and generally resented as a tribal affair, resulting in a feud and more or less bloodshed.

5. Intercourse with Europeans and other foreigners has, it must be confessed, unhappily opened their eyes to the existence of some vices of which they had formerly no knowledge;[3] notably is this the case with regard to drunkenness, for, being, till the time they made our acquaintance, "blessed in the ignorance of spirituous liquors," they had no conception of its effects, and, to express an inebriate, have invented a word (*lē·lēkanga-*) signifying "staggerer." It must, however, be added, that in consequence of the extreme partiality for rum and other intoxicating drinks which they manifest, much care has to be taken to prevent them from gratifying the easily acquired taste.

Narcotics.—1. Prior to our advent they were also entirely ignorant of narcotics in any form; but one of the evil results of their intercourse with us has been the introduction of the practice of smoking, and so rapidly have they (both men and women) acquired the habit, that, when at a distance from the homes and unable to obtain tobacco, they have been seen to fill their short clay pipes, which, it is scarcely necessary to say, have been obtained from us, with *pán* leaves rather than endure entire deprivation.

[1] *Vide* vol. xi, p. 288, and *post* "Superstitions," paragraph 13.

[2] *Vide post* "Religious Beliefs," paragraph 8.

[3] The crimes of abduction, rape, seduction, unnatural offences, &c., appear never to have been committed among them.

2. I have used the word "evil" advisedly, for there can be no doubt, from observations extending over many years, that the result of their excessive indulgence in smoking has been seriously to impair their constitutions. The attempts that have been made to check the mischief have hitherto failed, as it has been found difficult, if not impossible, to induce them to do a stroke of work without the accompaniment of the "fragrant weed."

Cannibalism.—1. The early stories regarding the prevalence of cannibalism among these savages do not at the present day require refutation.[1] No lengthened investigation was needed to disprove the long credited fiction, for not a trace could be discovered of the existence of such a practice in their midst, even in far-off times.

2. It is curious, however, to note, that while they express the greatest horror of the custom, and indignantly deny that it ever held a place among their institutions, a very general belief has been entertained by the tribes living in South and Middle Andaman as to its prevalence in other races, and even among their own countrymen inhabiting North and Little Andaman; and to this cause is chiefly ascribed the dread which they and their fathers have, from a distant period, evinced of their neighbours, and the animosity displayed towards strangers who have approached or landed on their shores; but these sentiments are now confined to those individuals who have had but scant opportunity of becoming acquainted with ourselves and other aliens, or with the results of the visits paid by us to the dreaded *yērewa-* and *jārawa-* territories.

Communications, Chirography, and Drawing.—1. The density of the Andaman jungles, and the unsuitability of their canoes for long expeditions by sea, would of themselves be serious hindrances to free intercourse between the various tribes, even were there not the further difficulty—due in great measure to the above circumstances—of difference of language to contend with.

2. There are no marked boundaries between the various tribal districts, but a general understanding exists between neighbouring tribes regarding the limits of their respective domains, which are usually defined by such natural barriers as a range of hills, a creek, or even a belt of dense jungle. So careful are they to respect these boundaries, that, before even travelling through, and particularly before hunting or fishing in, the territory of a

[1] Papuans being regarded as such inveterate anthropophagists, ethnologists will probably agree in considering that the non-existence—nay even horror—of this custom among the Andamanese furnishes an important item in the array of facts which militate against the theory held by some that the latter form a branch of the great Papuan family

neighbouring tribe, an express invitation or permission is required, unless, indeed, the party entering happens to be accompanied by one or more members of the district visited, or when, from long and friendly intercommunication, a right of way has been tacitly sanctioned. In cases where there has been a breach of this observance sharp retribution has generally followed, causing sometimes serious loss of life, and resulting in a long-standing tribal feud.

3. Those communities of *ē·rem-tâ·ga-* and *àryô·to-*, living within a few miles of each other and speaking the same dialect, arrange from time to time large gatherings—generally numbering about a hundred persons[1]—for purposes of barter, or for the celebration of some particular event. Though not unfrequently on these occasions old enmities are healed and friendships formed, fresh tribal feuds and personal quarrels sometimes originate in consequence of a misunderstanding or dispute over some comparative trifle.[2]

4. There are numerous paths intersecting each territory, the result of continuous traffic over the same ground. When, for some reason, a new course is taken through the jungle, the route is indicated to those following by bending the twigs of the brushwood in a reverse direction at intervals along the track. This is especially the case during the dry season, when, owing to the parched condition of the soil, there is some difficulty in distinguishing footprints.[3]

5. No marks on rocks, trees, or other objects, made for purposes of record, are believed by them to exist, and, with the exception of the supposititious hieroglyphics,[4] hereafter to be mentioned, nothing of the nature of writing is to be found among these tribes, nor have they any method of recording the name and exploits of a deceased chief or other individual who may have gained distinction during his life, save the narration —more or less garbled—of the same by their admiring descendants. The messenger who conveys intelligence to a distant encampment bears no outward token with him to testify to the authenticity or character of the communication he has to make.

6. Although no method of signs exists, such as tying knots in a string, making notches in a tally, or figures on wood, bark, or stone, they have means of distinguishing arrows and spears belonging to one another, by certain differences peculiar to each

[1] It is believed that no larger number than 300 has ever been assembled at one time in any place in our vicinity, at least since our advent.

[2] *Vide post* "Games and Amusements," paragraphs 24 and 37.

[3] No prejudice exists in respect to crossing water, going by certain paths, or handling particular objects.

[4] *Vide* "Mythology," paragraph 29.

individual in the method of tying and knotting the string employed in the manufacture of these missiles[1]; these, however, are often so slight that, even when pointed out, they are scarcely to be detected by a stranger, unless he be one who has bestowed careful attention to the subject.

7. In their savage state they never attempt to represent any object, and, though they do not appear to possess any natural taste for drawing, they differ from the Australians[2] in the intelligence they display in recognising any familiar form depicted in a sketch; and while no such method for indicating the situation of any place is known or employed among themselves, some of them are quick in understanding a chart of their own country, and are able to point out the sites of their various encampments.

8. It is hardly necessary to state that they have nothing answering to mile-stones or roadside marks. Swamps are never crossed, but in all cases avoided by circuitous routes; experience seems to have taught them the natural line of fords from salient to salient banks, and, when a creek has to be crossed, they always avail themselves of the advantages thus afforded, even making a detour in order to do so.[3] This applies, however, to those occasions when they are not heavily laden, or are carrying articles liable to be damaged by immersion, or which would hinder them from swimming.

Swimming.—1. With the exception of some of the *ē·rem-tâ·ga-*,[4] a knowledge of the art of swimming is common to members of both sexes; the *children* even, learning almost as soon as they can run, speedily acquire great proficiency. In this accomplishment the Andamanese greatly surpass the majority of Europeans, but it is probable that, in competition with an experienced English swimmer, their best men would be distanced in the first few hundred yards, it being not so much for speed, as for the length of time they can remain in the water, that they are remarkable.

[1] With reference to this circumstance, it may be mentioned that, a few years ago (1876), five aborigines, concerned in the murder near Kyd Island of some Chinese traders with whom they had had a dispute, were discovered by means of the arrows found on the spot, as these were identified by some of their acquaintances then living at Port Blair.

[2] Brown [From remarks, however, contained in a recent article, entitled "The Indo-Chinese and Oceanic Races," by Mr. A. H. Keane, which appeared in "Nature" (Jan. 6th 1881), it would appear that the low estimate of the Australian intellect formed by certain ethnologists is not shared by all, and "many instances are given of their skill even in drawing, a capacity for which was wholly denied them."]

[3] Wells are not dug, but when encamping, whether for days or months, care is always taken that the spot selected be near some fresh-water stream.

[4] The reason of this is obvious, as it is known that the majority of the creeks are fordable in many places within three miles of the coast, even in the rainy season, and, therefore, the necessity of acquiring the art of natation has never been experienced by those permanently resident in the interior.

2. The "frog-stroke" is the one in general use; in diving they invariably leap *feet* foremost into the water, and their skill in recovering any small object, which has been thrown into the sea, or which is lying at a considerable depth, equals that displayed by Somali boys.

3. The younger people delight in disporting themselves in the sea, and in displaying their skill in capturing a harpooned turtle or fish by diving after it; but, while they surpass most races in this respect, they are by no means equal to the astounding feat of catching fish—not to mention any larger than themselves—by merely plunging into the sea after them, as was alleged by the ex-sepoy convict, *Dudhnáth*, in one of his many Munchausen-like statements. His allegation, according to Dr. Mouat, was that he had "seen three or four of them dive into deep water, and bring up in their arms a fish six or seven feet in length, which they had seized." A well known work having been lent me in which the Andamanese are referred to, I took advantage of an opportunity to show them some of the illustrations, amongst others one in which two of their race are represented as rising to the surface with an enormous fish in their arms, while a third person, standing on the shore, is endeavouring to despatch it by repeated blows with a log. Great was the amusement of my Andaman friends, and also of those natives of India, who, from long residence among them in the homes are well aware of the degree of skill they are capable of manifesting in their various pursuits, to learn the wonderful prowess attributed to them, and a hearty laugh was indulged in at the artist's expense, who, however, it will be seen from the foregoing, did not draw entirely upon his fertile imagination for the incident.

Explanation of Plates VI and VII.

PLATE VI.

Map of the Andaman Islands, showing distribution of the nine tribes, and the extent of territory occupied by each. Re-produced (with modifications) from the "Proceedings of the Royal Geographical Society," by permission of the Council.

PLATE VII.

Two Andamanese canoes with a group of aborigines and jemadar Ahmed (head petty officer of the homes). The nearer canoe is a large specimen of the out-rigger description, styled *chá·rigma-*, and the further one represents an ordinary size "dug out," called *gī·lyanga-*, such as has been commonly made for some years past by the South Andamanese (*bō·jig-ngī·ji-*).

ANDAMANESE CANOES.



FIG. 1.—ANDAMANESE MAN AND WOMAN, SHOWING PROFILES.



FIG. 2.—ANDAMANESE CHIEF, WITH BOW AND ARROWS.

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OF

GREAT BRITAIN AND IRELAND.

On the Aboriginal Inhabitants *of the* Andaman Islands.

(Part II.) By E. H. Man, Esq., F.R.G.S., &c.

[With Plates VIII and IX.]

In the paper which I had the honour of reading here a few weeks ago I endeavoured to give you as much information as my time allowed relative to the physical characteristics of the race, and then touched briefly upon certain points connected with their culture. I propose this evening to speak of their marital relations, and to tell you of certain of their customs, superstitions, traditions, and beliefs; but before doing so I wish to say a few words in reference to the dialects or languages spoken by the various tribes, more especially the language spoken by the *bō̤jig-ngī̤ji-*, or South Andaman tribe. As I shall presently show, the people themselves have a legend[1] to account for the linguistical distinctions existing in their midst, but, on a subject of such importance as the origin of an unwritten language, the traditions current among the savages who speak it have rarely, if ever, I believe, been known to throw any light.

Language.—1. A few short lists of Andamanese words have been prepared from time to time, commencing, I think, with Colebrooke, who visited the islands nearly a century ago; but

[1] *Vide post* "Mythology," paragraphs 14 and 22.

owing to a variety of circumstances, not the least of which was the absence of any system of representing the sounds in the language—each author having chosen to employ a phonetic code best understood by himself and capable of varying interpretation by others—the result has been, to say the least, unsatisfactory, and the words for the most part are, in their printed form, either wholly unrecognisable by the people themselves, or possess a meaning differing very much from that given.

2. I do not make these remarks with a view of depreciating the efforts of others, for I fully recognise the difficulties with which they had to contend, and am aware that these exceeded any I have had to overcome, consequent on the improved relations which have subsisted between ourselves and the aborigines in recent years.

3. It must also be borne in mind that time necessarily works vast changes in all savage languages, which depend so entirely upon the oral correctness of the whole population for their accurate transmission.

4. As my knowledge of the other dialects is not as yet sufficient for me to be able to describe them comparatively at any length—leisure having failed me to obtain more than a few hundred words of five of the seven remaining tribes of Great Andaman—I wish it to be understood that, except where otherwise stated, my remarks refer to the *.bō·jig-ngī·ji-*, or South Andaman dialect.

5. The Andamanese are, as a rule, very conservative, and prefer to coin from their own resources rather than to borrow from aliens, words expressing ideas or objects which are new to them. To give only one of many examples:—having themselves no forms of worship, they had no word for "prayer," but since seeing the Mohammedans at their daily devotions, and learning that they are addressing an Invisible Being, they express the act by a compound word, *â·rlalik-yâ·b-*, signifying "daily repetition" (viz.: *â·rla* daily, and *ik-yâ·b-* repetition).

6. They have also a distinct poetical dialect, and in their songs subordinate everything to rhythm, the greatest liberties being thereby taken not only with the forms of their words, but even with the grammatical construction of the sentences. For instance the chorus of one of their songs runs thus:—

chēklū yâ lak·u mēj·rà?

which means "who missed the hard (backed) turtle?" the prose construction of the sentence being *mij·a yâ·dī chē·balen lá kàchī·re?* It will be at once noticed how great is the difference between the two versions, for in this, as in most of their songs,

the words in their poetic form are so mutilated to suit the metre as to be scarcely recognisable; indeed, it not unfrequently happens that the composer of a new song has to explain its meaning in the ordinary vernacular to his chorus[1] as well as to the audience in general.

7. It may perhaps interest some of my readers to see a comparative table which I have prepared of the various forms of the possessive pronominal adjectives in most frequent use among five of the eight tribes of Great Andaman.

	.bō·jig-ngī·ji-	*.bō·jig-yâ·b-*	*.á·kà-kô·l-*	*.óko-jū·wai-*	*.bal·awa-*
my ..	*dī·a-* ..	*tī·ya-* ..	*tī·ya* ..	*tī·ya* ..	*deg·e.*
thy ..	*ngī·a-* ..	*ngī·ya-* ..	*ngī·ya* ..	*ngī·ya* ..	*ngeg·e.*
his ..	*ī·a-* ..	*ī·ya-* ..	*ī·ya* ..	*àī·ya* ..	*eg·e.*
our ..	*mē·ta-* ..	*mī·ya-* ..	*mī·ya* ..	*mī·ya* ..	*mâ·tat.*
your ..	*ē ta-* ..	*ngàrdī·ra-* *lī·ya-* ..	*ngàrdī·ra-* *tē ya* ..	*ngachâ·par-* *lī·ya* ..	*ngâ·tat.*
their ..	*ó·nta-* ..	*nó·ngtá·le-* *lī ya-* ..	*ó·ntá·le-* *eka-tē ya* ..	*narâ·ngòich-* *lī·ya* ..	*á·tat.*

8. There are in each dialect several other forms of possessive pronominal adjectives, each of which must be used with its own class of nouns, but time will not permit me to enter into particulars regarding these. The form which, roughly speaking, is of general application among the *.bō·jig-ngī·ji-* is, as I have just shown, that of *dī·a-*, *ngī·a-*, &c. Ex. :—*dī·a kâ-rama-*, my bow; *mē·ta yâ·dī-*, our turtle; the exceptions to its use being, (*a*) those nouns denoting human objects, (*b*) those indicating the various parts of the body,[2] and (*c*) certain other nouns denoting degrees of relationship. To be as brief as possible, I will give but one or two examples of each.

(*a*)

dī·a-, my	*mē·tat*, our	Ex. · *dī·a abū·la-*,
ngī·a-, thy	*ē tat*, your	my man.
ī·a-, his	*ó ntat*, their	*mē·tat at-paḍ-*,
l'ī·a-, ——'s	*l'ó·ntat*, ——s'	our women.

[1] I cannot here enter into particulars regarding their songs and choruses, an account of which will be hereafter given under "Games and Amusements."

[2] For a complete list of these *vide* Appendix G.

(*b*)

I. Used with words indicating the head, brain, occiput, scalp, neck, nape, chest, lung, heart, &c.

dōt, my	*mō·tot*, our	Ex.: *dōt chē·ta-*,
ngōt, thy..	*ngō·tot*, your	my head.
ōt, his	*ō tot*, their	*ō·tot lō·ngota-*,
l'ōt, ——'s	*l'ō·tōt*, ——s'	their necks.

II. Used with words indicating the hand, finger, wrist, knuckle, nail, foot, toe, heel, ankle, &c.

dōng, my	*mòi·ot*, our	Ex.: *ngōng tō·go-*,
ngōng, thy	*ngòi·ot*, your ..	thy wrist.
ōng, his	*òi·ot*, their	*òi·ot pág-*,
l'ōng, ——'s	*l'òi·ot*, ——s'	their feet.

III. Used with words indicating the shoulder, arm, breast, face, temple, cheek, nose, ear, eye, gum, tear, tooth, &c.

dig, my	*mit·ig*, our	Ex.: *ngig tō·go-*,
ngig, thy	*ngit·ig*, your	thy shoulder.
ig, his	*it·ig*, their	*mit·ig tūg-*,
l'ig, ——'s	*l'it·ig*, ——s'	our teeth.

(N.B.—The words for eye, eye-lid, and eye-lash, generally take the abbreviated form, *dī*, *ngī*, *ī*, *mit·i*, *ngit·i*, *it·i*.)

IV. Used with words indicating the body, back, spine, thigh, calf of leg, elbow, knee, rib, stomach, spleen, liver, shoulder-blade, &c.

dab, my	*mat*, our	Ex.: *dab chàu-*,
ngab, thy	*ngat*, your	my body.
ab, his	*at*, their	*at pá·retá-*,
l'ab, ——'s .. .	*l'at*, ——s'	their ribs.

V. Used with the words indicating leg, hip, loin, bladder, &c.

dar, my	*mar·at*, our	Ex.: *dar chág-*,
ngar, thy	*ngar·at*, your	my leg.
ar, his	*ar·at*, their .. .	*ar·at chō·rog-*,
l'ar, ——'s	*l'ar·at*, ——s'	their hips.

VI. Used with words indicating mouth, chin, lip, throat, palate, tongue, gullet, jaw-bone, collar-bone, breath, &c.

dâ·kà, my	*mak·at*, our	Ex.:	*ngâ·kà bang-*,
ngâ·kà, thy	*ngak·at*, your		thy mouth.
â·kà, his	*ak·at*, their		*ak·at ē·kib-*,
l'â·kà, ——'s	*l'ak·at*, ——s'		their jaw-bones.

VII. Used apparently only with the word indicating waist.

dô·to, my	*mô·to*, our	Ex.:	*dô·to kī·nab-*,
ngô·to, thy	*ngô·to*, your		my waist.
ô·to, his	*ô to*, their		*mô·to kī·nab-*,
l'ô·to, ——'s	*l'ô·to*, ——s'		our waists.

I. (*c*)

dab, my	*mat*, our	Ex.:	*dab mai·ola*,
ngab, thy	*ngat*, your		my father.
ab, his	*at*, their		*dab ē tinga-*,
l'ab, ——'s	*l'at*, ——s'		my mother.

II.

dâ·kà, my	*mak·at*, our	Ex.:	*dâ·kà kám-*,
ngâ·kà, thy	*ngak·at*, your		my younger brother.
â·kà, his	*ak·at* their		
l'â·kà, ——'s	*l'ak·at*, ——s'		

III.

dar or *dár*, my	*mar·at*, our	Ex.:	*dar ō·dire*,
ngar or *ngár*, thy ..	*ngar·at*, your		my son.
ar or *ár*, his	*ar·at*, their		
l'ar or *l'ár*, —— 's ..	*l'ar·at*, ——s'		

IV.

dai, my	*mē·tat*, our	Ex.:	*dai īk-yâ·te-*,
ngai, thy..	*ē·tat*, your		my wife.
ai, his	*ó·ntat*, their		*ó·ntat pail-*,
l'ai, ——'s	*l'ó·ntat*, ——s'		their wives.

V.

ad, my	*mē·tat*, our	Ex.:	*ad ik-yâ·te-*,
ang, thy	*ē tat*, your		my husband.
á, his	*ó·ntat*, their		*ē tat bū la-*,
l'á, ——'s	*l'ó·ntat*, ——s'		your husbands.

VI.

ad-en, my	*am-et*, my	Ex.:	*ad-en tó·bare*,
ang-en, thy	*ang-et*, your		my elder brother.
á-en, his	*á-et*, their		*ang-et tó·bare-pail-*,
l'á-en, ——'s	*l'á-et*, ——s'		your elder sisters.

VII.

dōt, my	*mō·tot*, our	Ex.:	*dōt chá·tnga-*,
ngōt, thy	*ngō·tot*, your		my adopted son.
ōt, his	*ō·tot*, their		
l'ōt, ——'s	*l'ō·tot*, ——s'		

VIII.

deb, my	*meb·et*, our	Ex:	*deb aden·ire*,
ngeb, thy	*ngeb·et*, your		my step-son.
eb, his	*eb·et*, their		
l'eb, ——'s	*l'eb·et*, ——s'		

9. Lieutenant R. C. Temple, in his Notes on my translation of the Lord's Prayer into *.bō·jig-ngī·ji-* quotes some of the remarks made by Dr. Caldwell on the Australian languages, which he considers can with perfect truth be applied to the Andamanese dialects. The grammatical structure exhibits a general agreement with the languages of the Scythian group; in both we find the use of post positions instead of prepositions; they also agree in the formation of inceptive, causative, and reflective verbs by the addition of certain particles to the root, as well as generally in the agglutinative structure of words and their position in a sentence.

10. In the same work, six sentences in *.bō·jig-ngī·ji-* and *.bō·jig-yâ·b-*[1], such as would occur in daily conversation, are given as examples to illustrate the diversity of speech in two adjacent tribes. Only three out of some thirty words are there

[1] Or, in the language of that district, *.pū·chik-wâr-*. Both *yâb-* in South Andaman, and *wâr-* in South of Middle Andaman, signify "language." As will shortly be explained under "Mythology," the belief held by all, or the majority of the tribes of Great Andaman, is that the *.bō·jig-yá·b-* is the original language spoken by their remote ancestors, and from which the various other existing dialects have sprung. The word *bō·jig* is used in a special sense to denote "our," or "our style of." Ex.: *.bō·jig-ngī·ji-* (the South Andaman tribe's name for itself), literally, *our* friends; *.bō·jig-yá·b-*, (their name for the tribe on their northern border), literally, *our* language; *mí·a ngen kâ·to bō·jig kâ·rama mâ·nre?* Who gave you that *bō·jig* (*i.e.*, our style of) bow? [As shown in Appendix B, item 1, this term is used to distinguish the description used by the five tribes occupying Middle and South Andaman and the Archipelago, from the bows of the *.yē·rewa-* (*i.e.*, the three North Andaman tribes), and the *.jār·awa-*.]

shown to be the same in both languages, while they differ in *every inflection*, from which fact it will readily be understood that, apart from the great difficulties of inter-communication, the task of acquiring a knowledge of the dialects of the remaining eight tribes must be one involving considerable sacrifice of time and labour, such as, I fear, it is hopeless to expect any government officer unless specially deputed for the work will be able to accomplish during his term of service.

11. Before concluding this part of my subject I will read an extract from a letter received last August from my friend and fellow-worker in this branch of my studies, Lieutenant R. C. Temple (cantonment magistrate at Ambála), which he authorises me to publish as embodying his opinion after a careful study of the vocabularies and other data which I have collected and forwarded to him: "The Andaman languages are one group; they are like (*i.e.*, connected with) no other group; they have no affinities by which we might infer their connection with any other known group. The word-construction (the etymology of the old grammarians) is two-fold, *i.e.*, they have affixes and prefixes to the root of a *grammatical* nature. The general principle of word-construction is agglutination pure and simple. In adding their affixes they follow the principles of the ordinary agglutinative tongues; in adding their prefixes they follow the well defined principles of the South African tongues. Hitherto, as far as I know, the two principles in full play have never been found together in any other language. Languages which are found to follow the one have the other in only a rudimentary form present in them. In Andamanese both are fully developed, so much so as to interfere with each other's grammatical functions. The collocation of the words[1] (or 'syntax,' to follow the old nomenclature) is that of the agglutinative languages purely. The presence of the peculiar prefixes does not interfere with this; the only way in which they affect the syntax is to render the frequent use possible of long compounds almost polysynthetic in their nature, or, to put it another way, of long compounds which are sentences in themselves, but the construction of these words is not synthetic but agglutinative, and they are *as words* either compound nouns or verbs taking their place in the sentence, and having the same relation to the other words in it as they would were they to be introduced into a sentence in any other agglutinative language. There are of course many peculiarities of grammar in the Andamanese group, and even in each member of the group, but these are only

[1] For an example of this the reader is referred to "*Wōd*'s statement," which will be found in Appendix F

such as are incidental to the grammar of the other languages, and do not affect its general tenor. I consider, therefore, that the Andamanese languages belong to the agglutinative stage of development, and are distinguished from other groups by the presence in full development of the principle of prefixed and affixed grammatical additions to the roots of words."

12. With so wide a range of subjects as I propose including in my present paper, I must not detain you with any further remarks on the Andamanese dialects, however interesting they may be to many here present. I have the less scruple in dealing thus cursorily with this important point in the study of this race, as I trust we may hope shortly to see a paper from the able pen of Mr. A. J. Ellis, F.R.S.,[1] whom I have been so fortunate as to interest, and who has kindly consented to examine my dictionary, containing probably about 6,000 words[2] with examples of their use, together with a copious treatise on the Grammar prepared by Lieutenant Temple from my notes.[3]

Adoption.—1. I have already pointed out to you several instances in which we find, on closer acquaintance with the race, that mistaken views have been entertained, and that both astonishment and merriment were evoked from the aborigines by the narration of certain of the habits and customs attributed to them, especially in connection with their social and marital relations.

2. It is generally admitted that one of the surest tests of a man's character may be found in the treatment women meet with at his hands; judged by this standard these savages are qualified to teach a valuable lesson to many of the fellow-countrymen of those who have hastily set them down as "an anomalous race of the most degraded description."

3. I have already mentioned that self-respect and modesty characterise their intercourse with one another, and that the

[1] I am happy to be able to add before going to press that a valuable paper on the South Andamanese language was incorporated by Mr. Ellis in his annual presidential address, which was delivered before the Philological Society on the 19th May, 1882.

[2] And yet we find it stated by Figuier that "language is extremely limited among them;" and by Surgeon-Major Hodder that it "consists of a few words, and these sound harsh and explosive, and are principally monosyllables;" but it will be sufficient to refer to Mr. Ellis's interesting digest of the Andaman MSS. above mentioned, and to *Wō·i*'s statement (Appendix F), to disprove the assertions of these writers.

[3] I would take this opportunity to express my acknowledgments of the great assistance afforded me by Mr. Temple in my philological researches. The result of his study of my vocabulary and notes on the Andamanese languages during a little over two years, is comprised in a large number of MSS. on the Grammar (above referred to) which, from lack of leisure, he has been compelled reluctantly to return to me for completion.

young are early instructed in the duties of hospitality, while the aged, the suffering, and the helpless are objects of special attention; that their moral code is not confined within these limits will be seen as I proceed.

4. The curious, but by no means uncommon,[1] savage custom of adoption prevails among them, from which, however, it must not be inferred that love of offspring is a characteristic in which they are at all deficient, for this is far from being the case.

5. It is said to be of rare occurrence to find any child above six or seven years of age residing with its parents, and this because it is considered a compliment and also a mark of friendship[2] for a married man, after paying a visit, to ask his hosts to allow him to adopt one of their children. The request is usually complied with, and thenceforth the child's home is with his (or her) foster-father (*mai-ōt-chă'tnga-*): though the parents in their turn adopt the children of other friends, they nevertheless pay continual visits to their own child, and occasionally ask permission (!) to take him (or her) away with them for a few days.

6. A man is entirely at liberty to please himself in the number of children he adopts, but he must treat them with kindness and consideration, and in every respect as his own sons and daughters, and they, on their part, render him filial affection and obedience.

7. It not unfrequently happens that in course of time permission to adopt a foster-child is sought by a friend of the *soi-disant* father, and is at once granted (unless any exceptional circumstance should render it personally inconvenient), without even the formality of a reference to the actual parents, who are merely informed of the change in order that they may be enabled to pay their periodical visits.

8. Foster-parents constantly manifest much opposition to any desire they may observe on the part of the lads they have brought up, to make a home for themselves, for the selfish reason that they are useful in a variety of ways, above all, when they have acquired skill in hunting, turtling, &c.; over the maidens little or no restraint is imposed, as their marriage entails but a trifling loss in a material sense on those who have reared them.

9. Human nature, however, is the same all the world over, and boys will be boys even in the Andaman jungles, so it is not surprising that, in spite of all the precautions taken by their

[1] *Vide* Lubbock "On the Origin of Civilization," &c., p. 96.

[2] Whether this be the true explanation of its object and origin or not, there can be little doubt that it has the effect of greatly extending the intercourse between the members of the various encampments.

seniors, a good deal of flirtation, and often something more, is carried on by the young people without arousing any suspicions as to their sentiments for one another, until the affair has become too serious to be broken off, and has to end, sooner or later, in their marriage and start in life on their own account. In some cases, when the guardians have reason to believe that a lad has, notwithstanding his assurances to the contrary, a *sub silentio* attachment, they adopt the following method for testing the truth of his asseveration; on a given day it is arranged by the friends of the suspected couple that they shall (without the knowledge of either) be painted respectively with the red oxide of iron unguent, *kòi·ob-*, and the white clay *tâ·la-ōg-*, for, as they would not meet till night-fall, the risk of their discovering the trap laid for them is reduced to a minimum, while a glance on the following morning would suffice to betray them if guilty, and the guardians' object would be attained, for, from shame at his secret being known, and his falsehood exposed, the youth feels in honour bound to break off his connection with the girl, at least for some time.

Relationships.—1. In all the relations of life the question of propinquity is, in their eyes, of paramount importance, and marriage is only permissible between those who are known to be not even distantly connected, except by wedlock, with each other; so inexorable, indeed, is this rule, that it extends, and applies equally, to such as are related merely by the custom of adoption to which I have just referred.

2. A first cousin, actual or by adoption, is regarded as a half-brother or half-sister, as the case may be, and nephews and nieces almost as sons and daughters, while the terms used to denote a grandfather, grandmother, grandson, and grand-daughter are equally applied to indicate respectively a grand-uncle, grand-aunt, grand-nephew, and grand-niece.

3. Parents, when addressing, or referring to their children and not using their names, employ distinct terms, the father calling his son *dar ō·dire, i.e.*, he that has been begotten by me, and his daughter *dar ō·dire-pail-*; while the mother makes use of the word *dab ē·tire, i.e.*, he whom I have borne, for the former, and *dab ē·tire-pail-* for the latter; similarly, friends in speaking of children to their parents say respectively, *ngar ō·dire* or *ngab ē·tire* (your son), *ngar ō·dire-pail-*, or *ngab ē·tire-pail-* (your daughter).[1]

4. Uncles and aunts on the father's are not distinguished from those on the mother's side; relationships are traced in both lines, and the system with reference to either sex is identical.

[1] Foster-parents employ the terms *dōt chà·tnga-* and *dōt chà·tnga-pail-* in referring to their adopted son and daughter respectively.

5. In consequence of the shortness of their lives, their ignorance of any method of maintaining accurate records, and last, not least, the unavoidable complications arising from their system of adoption, it naturally follows that they fail in tracing, and therefore in recognising, relationships beyond the third generation.

6. In addressing a senior male relative, the term *mai·a* or *mai·ola* is employed; if of equal standing, and a father, the same; but if not a parent, the term *mar* is prefixed to his name; if junior, he would be addressed by his name only. The same system applies to the females, with whom *chăn·a*[1] or *chân·ola* takes the place of *mai·a* and *mai·ola*, and the "flower" name, to which I can now make but a brief allusion,[2] the place of *mar;* these terms, *mai·a, chăn·a,* &c., are equivalent to Mr., Sir, Mrs., Madam, &c.[3] Sir John Lubbock, in his well known work "On the Origin of Civilization,"[4] points out the existence of a similar custom among the *Telugus* and *Tamils.*

7. In a table I have prepared,[5] and which I believe to be fairly complete, there are about sixty terms, exclusive of equivalents, employed to denote the various degrees of relationship recognised by this race. It will there be seen that, as among the Australians near Sydney, mentioned by the Rev. W. Ridley,[6] brothers and sisters speak of one another by titles that indicate relative age; that is, their words for brother and sister involve the distinction of elder or younger, and that a like system is adopted in respect to half-brothers, half-sisters, cousins, brothers-in-law, and sisters-in-law.

8. In addressing the relatives of a wife or husband, or a brother's wife, or sister's husband—provided such be senior to the speaker—the term *mâm* is used.

9. A man or woman may not marry into the family of their brothers- or sisters-in-law, but there is no rule against a man marrying a girl bearing the same name as himself, either in another tribe or in his own community, the *only* bar being that of consanguinity or adoption.

10. The nearest of kin to a widow or widower are, (1) the grown-up children, (2) the parents, and (3) the brothers and sisters.

Proper Names.—1. One of the alleged[7] peculiarities of the

[1] Not "*Chamah,*" as given by Dr. Day.

[2] *Vide* next section, paragraph 3.

[3] "According to Williams ('Fiji and the Fijians') their (*i.e.* the Fijian) languages contain expressions which exactly correspond to the French *Monsieur* and *Madame.*" (Peschel, p. 346.)

[4] *Vide* 4th edition, p. 164.

[5] *Vide* Appendix I

[6] *Vide* "Journ Anthrop. Inst." vol. II, p 266.

[7] *Vide* Tickell.

Andamanese is that they have no proper names, whereas their system of naming is, on the contrary, somewhat elaborate, and commences even prior to the child's birth.

2. When there is reason to expect an increase to the family,[1] the parents decide what name the child shall bear; as a compliment they not unfrequently select one which is borne by a relative, friend, or chief; and, since all their proper names[2] are common to both sexes,[3] no difficulty arises on this score.

3. In illustration of this let us suppose the name chosen in advance to be *.dô·ra;* should the infant prove to be a boy he is called *.dô·ra-ô·ta-*, or, if a girl, *.dô·ra-kâ·ta-*. These terms (*ô·ta-* and *kâ·ta-*[4]) are used only during the first two or three years, after which, until the period of puberty, the lad would be addressed as *.dô·ra-dâ·la-*, and the girl as *.dô·ra-pō·ilola* until she arrived at womanhood, when she is said to be *ūn-lâ·wi-* or *â·kà-lâ·wi-*, and receives a "flower" name[5] as a prefix to her proper or birth name. By this method they are apparently able to determine when their young women become marriageable. There are eighteen prescribed trees[6] which blossom in succession, and the "flower" name bestowed in each case is taken from the one which is in season when the girl attains maturity; if, for example, this should be about the end of August, when the *châ·langa-* (*Pterocarpus dalbergioides*) is in flower, *.dô·ra-pō·ilola* would become *.châ·gara*[7] *.dô·ra*, and this double name would cling

[1] When near her delivery a woman will sometimes be heard saying (assuming the name chosen for the yet unborn child to be *.wō·loga*): *.wō·loga dab-ō·jolike, Wō·loga* is fidgetting me, or *.wō·loga dab-ngô·towake, Wō·loga* is clawing me, or, *.wō·loga ô·to-yârke, Wō·loga* is ready. [During the period of pregnancy, both the woman and her husband are spoken of as *pīj-jā·bag-*, which signifies "bad hair"; the only explanation offered for the adoption of such a term is that it is in allusion to the fœtus.]

[2] These number forty. (*Vide* Appendix H.)

[3]
A man calls a male namesake { if his senior, *mai a ting·la.* / if his equal or junior } *mar ting·la.*
„ „ female „ *chán ting·la.*
A man (or woman) calls a child of either sex bearing the same name { *ád-ōting·ati-yâ·te-* (my).
A woman calls a male namesake { if her senior, *mai·a* (his name) *ting·la.* / if her equal or junior } *mar* (his name) *ting·la.*
„ „ female „ if her senior, *chán ting·la.*
„ „ „ „ if her equal or junior } (her name) *ting-la.*

[4] Signifying respectively the genitals of the male and female.

[5] Dr. Day writes: "Girls arriving at a marriageable age wear certain flowers to distinguish themselves by"; but, as a fact, the flower is neither worn nor gathered.

[6] Names of these will be found in Appendix H.

[7] Euphonic corruption of *.châ·langa-*.

to the girl until she married and was a mother,[1] then the "flower" name would give way to the more dignified term *chăn'a* (madam or mother) *.dô'ra;* if childless, a woman has generally to pass a few years of married life before she is called *chăn'a*,[2] after which no further change is made in her name.

4. In consequence of this system, as it rarely happens that in one community two women are found bearing the same "flower" *and* birth names, there is little chance of confusion arising.

5. Since no equivalent custom exists with regard to men,[3] nicknames are given which generally indicate some personal peculiarity, as, for instance, *.bī'a-pây-* (*Bī'a-*, foot, he having large feet), *.bal'a-jō'bo-* (*Bal'a-*, snake, he having lost a hand from a snake-bite), *.pū'nga-dâ'la* (*Punga-*, good-looking), and so on. All these names cling to the bearer for life, especially if they refer to some physical deformity.

6. Seniors often address young married persons in a (to us) strange fashion, *i.e.*, calling the husband by the wife's name and prospective designation; for example, in speaking to a man whose name is *.ī'ra*, and who had married a woman called *.tū'ra*, they would say *chăn'a .tū'ra;* if the wife were *enceinte* the child's name would be used beforehand to denote its parents; thus, assuming *.wō'loga* to be the name of the yet unborn child, the father would be called by that name, and the expectant mother *.wō'loga-būd-*[4] until after the birth of the infant, when, for several months, the former would still bear the same appellation among his seniors, but would receive from his juniors the more dignified title of *mai'a .wō'loga;* while the latter would be addressed by her seniors as *.wō'loga-ô'ta-* (or *kâ'ta-* in the case of her child being a girl), and by her juniors as *chăn'a .wō'loga-ô'ta-* (or *kâ'ta-*).[5]

Initiatory Ceremonies.—1. On or soon after reaching puberty, the fast[6] which has been kept during the few previous years (or in some cases, months) is broken; and instead of the affix *dâ'la*, the prefix *gā'ma*[7] (denoting in this connection a neophyte or

[1] From the account given under "Marriage," paragraph 4, it will be inferred that in many cases she has not long to wait.

[2] *Vide* section on "Relationships," paragraph 6.

[3] In a few cases nicknames are bestowed on women.

[4] *būd* signifies house, habitation.

[5] For further information on the subject of proper names and terms applied to men and women, *vide* sections on "Relationships" and "Initiatory Ceremonies," and Appendices I and K.

[6] *Vide* section on "Tabu."

[7] In Dr. Day's paper the following passage occurs:—"The youthful swain eats a peculiar kind of ray-fish termed *goom-dah*, which gives him the title to the appellation of *goo-mo*, signifying, 'a bachelor desirous of marrying.' Girls arriving at a marriageable age . . . . (*vide* footnote 5 on previous page). Before marrying, young men take a species of oath, after which they sit very still for several days, scarcely taking any food." Plausible as this explanation

novice) is attached to the boy's birth-name; he is also addressed as *mar*[1] *gū·ma* (master novice) if senior to, and alone with the speaker: this term *gū·ma* is retained until the lad is married and is a father, after which *mai·a*[2] (Mr.)—or, if a chief, *mai·ola*—is adopted in its place, and by this title he would be known for the rest of his life. A young chief, however, attains the honorary designation of *mai·a* as soon as the novitiate terminates.[3]

2. The *â·kà-yâ·ba-*, or fasting period (during which turtle, honey, pork, fish, and a few other favourite articles of food[4] are *choses défendues*), commences between the 11th and 13th year, and varies in length from one to five years; it is observed by both sexes, but lasts longer in the case of girls, with whom, indeed, it is not terminable till some time after matrimony. As an *â·kà-yâ·b-* makes up for these restrictions by eating a larger quantity of other food, he (or she) does not ordinarily suffer in physique during the probationary period. It does not rest with the youth or maiden to determine when he, or she, will resume eating the various articles above mentioned, but with the chief, who decides when each individual's powers of endurance and self-denial have been sufficiently tested. Exceptional cases are cited in which the probationer has expressed a desire to prolong the time of abstinence, it being a cause for boasting when the average period has been exceeded.

3. As at present understood, the *â·kà-yâ·ba-* is regarded as a test of the endurance, or, more properly speaking, of the self-denial of young persons, and as affording evidence of their fitness and ability to support a family. It is divided into three periods: 1st, the *yâ·dī-* (turtle) *gū·mul-*; 2nd, the *â·ja-* (honey) *gū·mul-*; and 3rd, the *reg-jī·ri-* (kidney-fat of pig) *gū·mul-*.[5]

4. When the youth is permitted, and agrees, to break his turtle fast, a feast is arranged by his friends, consisting entirely of that delicacy. The chief, or headman present, first boils in a pot (*būj-*[6]) a large piece of turtle-fat, which, when sufficiently cool, he

may appear, there is no connection between *gūm-*, a ray-fish, and *gū·ma* (a youth who has undergone his probationary fast); moreover, as mentioned in a foregoing section (*vide* "Proper Names"), marriageable young women do not derive their "flower" names in the manner here described; in point of fact, no such custom as "wearing flowers" is practised by any class.

[1] *Vide* section on "Relationships," paragraph 6.

[2] As with the term *chān·a* among women, the title is not bestowed for several years if there be no child.

[3] Both before and after the *â·kà-yâ·ba-* the individual is said to be *bô·tiga-*.

[4] These comprise the flesh of the iguana and paradoxurus, the larvæ of the Great Capricornis beetle (*ôi·yum-*), and a smaller insect called *bū·tu-*.

[5] It will thus be seen that the *gū·mul-* answers very much to the Australian "bora," or ceremony of initiation into the privileges of manhood, spoken of by the Rev. W. Ridley in his Report on Australian Languages and Traditions (*vide* "Journ. Anthrop. Inst.," vol. ii, p. 269, 1873).

[6] *Vide* Appendix B, item 18.

pours over the head of the lad, who remains seated and perfectly still in the midst of his friends while the oil streams over his body. The men present remove any ornaments that he may be wearing, and rub the grease into his person; the women and children meantime occupy themselves with crying, the idea being that, after abstaining from turtle for a long time, madness, illness, or even death, may result from partaking of it again.[1] After this the novice, who may not wash off the oil with which he has been anointed at least until late on the following day, is fed with the flesh of the turtle,[2] of which a certain quantity is reserved for his consumption on the ensuing two or three days, and the remainder is distributed among those assembled. He is then led to his hut and directed to sit cross-legged on a spot covered with leaves of the *Myristica longifolia*, with a support behind him against which he may lean. The turtle flesh, previously cooked and set apart for him, is deposited at his side, and one or more of his friends take it by turns to sit with him, it being their duty to enjoin silence, to supply his wants, and to prevent him from falling asleep by singing from time to time as the night wears away. The following morning his mother, sister and other female relatives, come and weep[3] over him, and paint, first, his ears and the adjoining parts with *yâ·dī-kòi·ob-*, and afterwards his entire person with alternate stripes of this compound and *tá·la-ōŋ-*. Some large leaves[4] made into two broom-like bundles are placed in his hands, and other leaves are placed in his waistbelt. Thus provided he rises and dances frantically,[5] swinging his arms at the same time, for an hour or more, while the women, who are seated with legs outstretched, keep time for him by slapping the hollow between their thighs with the palm of the right hand, which is held at the wrist by the other hand; the males look on, or, if they have gone through the ceremony themselves, accompany him in his performance.

5. After an hour or so, when, fatigued with his exertions, the youth stops dancing, the *yâ·dī-gū·mul-* is considered at an end, and the new *gū·ma* mingles with his friends, who, nevertheless,

[1] The same reason is given for the silence which the neophyte has to observe during this ceremony, as well as at the *á·ja-gū mul-* and *reg-jū·ri-gū·mul-*.

[2] He is then said to *gū mul mag·ke* (or *gū mul lē·ke*), *i.e.*, to eat, or devour, the *gū·mul-*.

[3] The reason given for this demonstration of grief is that the youth has now entered upon an important epoch in his life, and is about to experience the trials and vicissitudes incidental thereto.

[4] The leaves of the *Myristica longifolia* (*bō·rowa-*) are usually selected on these occasions, apparently because this tree is associated with turtle-hunting, paddles being made of the wood.

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[5] The step is a peculiar one, and is only seen on these occasions: the performer keeps his heels together and stamps on the ground, at the same time he swings his arms violently, holding in his hands the two leaf brooms.

continue to watch him carefully for two or three days, lest harm should result from his recent feast, and also because they think evil spirits are not unlikely to do him some injury by taking advantage of his supposed helpless condition to make him deaf, or cause him to forget his way, and thus meet the fate which, on the faith of their traditions, they believe to have overtaken two of their antediluvian ancestors.[1]

6. All that has been said of youths in respect to the *yâ·dī-gū·mul-* applies equally to young women, except that matrons remove the novice's ornaments, and all but one or two of her *bōd'*-s (waistbelts[2]), and her *ō·bunga-* (leaf apron[3]), which are left for the sake of decency. As, while performing the concluding dance, some difficulty is experienced in regard to the *ō·bunga-*, girls are provided on these occasions with a more substantial apron of leaves, so that the feelings of the most prudish are not violated.

7. The origin of the term *gū·mul-lē·ke* is obscure, and inquiries have failed to elicit any satisfactory explanation regarding it; the literal translation is "rainy monsoon devour-does," and though the *yâ·dī-gū·mul-* is always celebrated at that season of the year, the term is also applied to the honey feast, which can only take place during the dry months. The same equivalents are found in the other tribal dialects, so that the peculiarity is not confined to the *.bō·jŭy-ngŭ·ji-*. The only reasonable explanation offered is that the expression is in allusion to the sweaty (*gū·mar-*), or rain-like (*gūm-*), appearance of the novice when the melted fat or honey has been poured and smeared over his person.

8. Lengthened intercourse with the alien population in their midst has naturally led to their occasionally betraying some indifference in regard to customs, such as that above described; especially is this the case with those who have been brought up in the orphanage at Ross Island. A few years ago one of these youngsters, who had been named Martin, refused to accede to the wishes of his friends in the jungle home to which he had returned, and persisted in partaking of the articles of food proscribed to all of his age; as he happened shortly after to fall sick and die, they were fully persuaded that he had incurred his fate by failing to comply with the ancient rites and ceremonies as handed down by their fathers.

9. On the conclusion of the *yâ·dī-gū·mul-*, the youth is said to be an *â·kà-gū·mul-*, and, as before stated, is addressed as *gū·ma;* but this is not the case with the girl, possibly because she, at

[1] *Vide post* "Mythology," paragraph 25.
[2] *Vide* Appendix B, item 25.
[3] *Vide* Appendix B, item 79.

this period of her life, receives a "flower" name,[1] and does not, therefore, require any additional designation to denote that she has attained maturity. If more than one become *gū·ma* on the same day they call each other *gū·ma l'àrjo·pinga-*.[2] After the *yâ·dī-gū·mul-* turtles' eggs and the kidney-fat of the ray-fish and turtle may, at the bidding of the chief, be again eaten by the novice, and in the first ensuing dry season edible roots, and the heart of the *Caryota sobolifera*, may be added to the bill of fare without further ceremony than the observance of strict silence on the first occasion of partaking of them.

10. Between the *yâ·dī-gū·mul-* and the *â·jo-gū·mul-* no fruit may be eaten by the novices, who have, moreover, to abstain till after the *reg-jī·ri-gū·mul-* from pig's flesh of any kind.

11. When the honey fast is to be broken a quantity of honey-combs, according to the number assembled, are on the appointed day procured: the *â·kà-yâb-* being placed in the midst of the group, the chief or other elder goes to him with a large honey-comb wrapped in leaves; after helping the novice to a large mouthful, which he does by means of a bamboo or iron knife, he presents the remainder to him, and then leaves him to devour it in silence: this he does, not, however, by the ordinary method, for it is an essential part of the ceremony that he should not use his fingers to break off pieces, but eat it bear-fashion, by holding the comb up to his mouth and attacking it with his teeth and lips.[3] After satisfying his present requirements, he wraps what is left of the comb in leaves for later consumption.

12. The chief then takes another comb and anoints the youth by squeezing it over his head, rubbing the honey well into his body as it trickles down. The proceedings at this stage are interrupted by a bath, in order to remove all traces of the honey, which would otherwise be a source of considerable inconvenience by attracting ants. Beyond the observance of silence, and continued abstention from *reg-jī·ri-*, the youth is under no special restrictions, being able to eat, drink, and sleep as much as he pleases.

13. Early the following morning the lad decorates himself with leaves of a species of *Alpinia*, called *jī ni-*,[4] and then, in the presence of his friends, goes into the sea (or, if he be an *ē·rem-tâ·ga-*, into a creek) up to his waist, where, locking his thumbs

[1] *Vide ante* "Proper Names," paragraph 3.

[2] *arjō·pike*, to share, or to be a partner with another.

[3] This mode of eating is termed *parke* (to use the lips), from *pai-*, the lip.

[4] This plant is selected because it is associated with honey-gathering; its bitter sap, being extremely obnoxious to bees, is smeared over their persons when taking a comb, and enables them to escape scot free with their prize (*vide post* "Food," paragraph 35).

together, with open hands he splashes as much water as possible over himself and the bystanders, occasionally ducking his head under the surface as well. This is considered a safeguard or charm against *snakes*, and the on-lookers cry "*ô·to-ped·ike, kī·nig .wâ·ra-jō·bo lô·tike* (Go and splash yourself, or *Wâ·ra-jō·bo*[1] will get inside you), for they imagine that unless they go through this splashing performance, this snake will by some means enter their stomachs and so cause death.

14. The only difference between the sexes with respect to the *â·ja-gū·mul-* is that with females it cannot take place until after the birth of the first child; they are also required to abstain from honey during each subsequent pregnancy; in their case, too, a chief or elder (preferably a relative) officiates, and not a woman.

15. A year is generally allowed to elapse between the *yâ·dī-gū·mul-* and the *reg-jī·ri-gū·mul-*. When this final step is determined on, the friends and relatives of the *â·kà-yâ·b-* start on a pig hunt, and, if unsuccessful, the *gū·mul-* has to be postponed, for, in the case of a young man, it is necessary that the ceremony be performed with a boar, while for females a sow must be procured.

16. When all is ready, and the party assembled, the chief presses the carcass of the boar heavily on the shoulders, back, and limbs of the young man as he sits on the ground,[2] silent and motionless, this is in token of his hereafter becoming, or proving himself to be, courageous and strong. The animal is then cut up, and when the fat has been melted, as in the previous cases, it is poured over the novice, and rubbed into his person; he is then fed with *reg-jī·ri-*, and if he makes signs for water it is given him, but, until the following day, he may not utter a word, rise, or even sleep. Two or three friends generally remain with him to attend to his requirements, which he makes known to them by gestures.

17. In the morning fresh leaves of a tree called *reg lâ·kà chàl-*—the fruit of which is much eaten by the *Sus And.*—are brought, and a quantity of them are placed in the hands of the youth, and some more in his waistbelt; he then rises and, as at the turtle feast, dances until fairly exhausted. During the month following the *reg-jī·ri-gū·mul-*, the young persons are called *â·kà-gō·i-*.

18. It should be added that, whatever may have been the intention and practice in former years, it is not necessary at the present day for a youth to undergo these several ordeals before

[1] This is believed to be the *Ophiophagus elaps.*

[2] In the case of the woman, the carcass of the sow is not pressed in this manner on her limbs or body.

he is permitted to marry:[1] although many remain single until they have undergone these various rites, it is considered almost as binding on those who marry, before doing so, to comply with these time-honoured usages at some early opportunity.

Marriage.—1. It has been asserted that the "communal marriage,"[2] system prevails among them, and that "marriage is nothing more than taking a female slave,"[3] but so far from the contract being regarded as a merely temporary arrangement, to be set aside at the will of either party, no incompatibility of temper or other cause is allowed to dissolve the union, and, while bigamy, polygamy, polyandry, and divorce are unknown, conjugal fidelity till death is not the exception, but the rule, and matrimonial differences, which, however, occur but rarely, are easily settled with or without the intervention of friends.

2. It is undoubtedly true that breaches of morality have occasionally taken place among a few of the married persons who have resided for any length of time at Port Blair, but this is only what might be expected from constant association with the Indian convict attendants at the various homes; justice, however, demands that in judging of their moral characteristics we should consider those only who have been uninfluenced by the vices or virtues of alien races.

3. As in various other savage tribes, unchastity[4] is apparently universal among the unmarried of both sexes, and is indeed so entirely disregarded that no reproof is administered, even by the nearest relatives, to those who offend in this manner; notwithstanding this laxity, the girls are strikingly modest and child-like in their demeanour, and when married are good wives and models of constancy, while their husbands do not fall far short of them in this respect. It should, however, be mentioned that the freedom which exists between the sexes prior to wedlock, is confined to those who are not within the prescribed limits of affinity, as their customs do not permit of the union of any who are known to be even distantly related;[5] the fact of our allowing first cousins to marry seems to them highly objection-

[1] They think highly of a man who defers marriage until he is of full age, and the reverse of a youngster who rushes into matrimony before attaining the mature (!) age of eighteen.

[2] "So absolutely closely allied are the Andaman Islanders in their moral as well as physical life to the lower animals, that it is said by an eminent scientific voyager (Sir Edward Belcher) that the man and woman remain together until the mother ceases to suckle the child, after which they separate as a matter of course, and each seeks a new partner" (Brown).

[3] *Vide* Wood.

[4] "A great many races of mankind are quite indifferent to juvenile unchastity, and only impose strict conduct on their women after marriage" (Peschel).

[5] "It is precisely nations in the most primitive stage which have the greatest abhorrence of incestuous marriages" (Peschel).

able and immoral, which is turning the tables on us with a vengeance.[1]

4. In consequence of the lax code of morality prevailing among the unmarried, it not unfrequently happens that a marriage is brought about by the circumstance of the young woman being found *enceinte*. When this is the case, the guardians ascertain from her companions or herself who is the cause of her being in such a condition, and, whether it is an easy matter or not to decide this question with certainty, there never appears to be any difficulty in persuading the youth whom she names as her lover to become her husband. It thus happens that children are very rarely born out of wedlock.

5. Parents and foster-parents have the power of betrothing their children in infancy, and though subsequently, during childhood, they may be parted, the contract must be fulfilled soon after they attain a marriageable age; it is even alleged that, like the Yorubas,[2] the Andamanese look upon a girl betrothed by her parents as so far a wife that with her prematrimonial unfaithfulness is accounted a crime.

6. As soon as the betrothal has been agreed upon, the girl is taken to the hut of her future father-in-law, or foster father-in-law, and the children remain together for several months, in order that the fact of their engagement may become generally known; after this the girl returns to her old home, or is adopted by one of her father's friends. Should either of the betrothed pair die young, the survivor is not called upon to take any part at the obsequies, and is at liberty to form another alliance.

7. Until a man attains middle age he evinces great shyness in the presence of the wife of a *younger* brother or cousin, and the feeling is invariably reciprocated; it is, however, otherwise in the case of the elder brother's (or cousin's) wife, who, moreover, should she be many years his senior, receives from him much of the respect accorded to a mother. In the first of the above cases all communications are made through a third person, though under no circumstances would marriage be permissible between them; while in the latter it is almost obligatory, unless the disparity between the ages be very great.

8. It is not customary for lovers to intimate their desire of being married, but it is the duty of the guardian, or, in the case of widows and widowers, of the chief of the community, to

[1] On reference to Appendix I, it will be found that the terms which are used to denote *half-brother* and *half-sister*, are also employed to denote *male* and *female cousins*, showing how close they regard the relationship.

[2] Farrer's "Primitive Manners and Customs," p. 201.

arrange matters for those between whom he observes there is something more than a passing attachment.

9. Although nearly all marriages are brought about by one or other of the above-mentioned modes, it remains to be added that an individual is now and then met with who is regarded as married though he (or she) has not conformed with the prescribed ceremony; this occurs when a bachelor or widower is found asleep in one of the huts occupied by unmarried females; he and the woman beside whom he was seen are then said to be *tigwâ'nga-*, which means that their union has been contracted irregularly. In such cases no ceremony or entertainment takes place, for a certain amount of discredit attaches to a couple thus united; but if their after conduct towards each other be considered satisfactory no unpleasant allusions are made to the past.

10. As they have no idea of invoking the aid or blessing of a Supreme Being, nothing of a religious character attaches itself to the marriage ceremony, which may be briefly described as follows:—On the evening of the eventful day[1] the bridal party assemble at the chief's hut or in one of those occupied by unmarried women. The bride (whether spinster or widow) sits apart, attended by one or two matrons, and the bridegroom takes his place among the bachelors until the chief or elder approaches him, whereupon he at once assumes a modest demeanour and simulates reluctance to move; however, after a few encouraging and re-assuring remarks he allows himself to be led slowly, sometimes almost dragged, towards his *fiancée*, who, if she be young, generally indulges in a great display of modesty, weeping and hiding her face, while her female attendants prepare her by straightening her legs; the bridegroom is then made to sit on her thighs, and torches are lighted and brought close to the pair that all present may bear witness to the ceremony having been carried out in the orthodox manner, after which the chief pronounces them duly married, and they are then at liberty to retire to the hut which has been previously prepared for their occupation.

11. Unless they have made arrangements to settle[2] elsewhere,

[1] I can find nothing to account for the statement, which appeared in Dr. Day's paper, to the effect that they "pass their marriage day staring at one another."

[2] From the fact that, sometimes from choice, and sometimes in compliance with the wishes of the bride—should she belong to another tribe—they settle down in another community, it has been inferred in Dr. Day's account that it is customary to spend the honeymoon away from their friends, but such is not the case. The same writer further states that "on the bridegroom's return to the tribe with his bride, *Jeedgo*, crying and dancing are kept up with great spirit." The word here intended is evidently *ahjad'i-jõ'g-*, but it means *spinster*, the word for *bride* being *ahdē rebil-pail-*.

the newly married couple do not leave the encampment in order to get food, or anything else that they may require, as the friends consider it a duty or privilege to supply all their needs until the shyness, consequent on the marriage, has worn off.

12. Wedding presents being as much *de rigueur* among these savages as in Mayfair, the happy pair invariably find themselves enriched by their relatives and acquaintances with the various articles of ordinary use, such as nets, buckets, bows, arrows, &c., in honour of the event.

13. On the morning following the marriage the bridegroom's mother, or other near female relative, decorates his person by painting him with *tâ·la-ōŋ-*, while the bride is similarly ornamented by her friends. It often happens that a young couple will pass several days after their nuptials without exchanging a single word, and to such an extent do they carry their bashfulness that they even avoid looking at each other: in fact their conduct would lead a stranger to suppose that some serious quarrel had caused an estrangement.

14. When a few days have elapsed, and they are in some measure accustomed to the novelty of their position, they enter upon the duties of life, and conduct themselves like their neighbours: the marriage is then celebrated by a dance, in which all, save the bride and bridegroom, take part.

15. A certain amount of jealousy usually exists between young people during the first year of their married life[1]; indeed, complete confidence and genuine affection are never entirely established until they become parents or, at least, till the wife is found to be *enceinte*, and even their relationship to each other is not regarded as being so close *prior* to the birth of a child as it is *after* that event. Confirmatory evidence on this point will be given when describing the funeral rites,[2] where it will be noticed that the survivor of a childless couple is not looked upon as chief mourner.

16. There is no prohibition against second marriages, but greater respect is entertained for those who show their love and esteem for the deceased by remaining single and leading chaste lives (*ō·yūn-tē·mar-barminga-*). It is by no means unusual for a man, even though he be young at the time of his wife's death, to remain a widower[3] for her sake for many years, or even till death;

[1] It often happens that a man will not at first allow his wife to leave their hut at night for any purpose unless he accompanies her, professedly to protect her from dangers, spiritual and temporal, but in reality to satisfy himself that she has not made an assignation.

[2] *Vide* "Death and Burial," paragraph 20.

[3] It must, however, be admitted that as their customs allow of a widow or widower consorting with the unmarried of the opposite sex, a single life is not of necessity a virtuous one, or evidence of constancy and devotion to the memory of the dear departed.

but widows generally marry again when the prescribed term has passed: this is not altogether due to inconstancy on the part of the fair (!) sex, but to the custom, to which allusion has before been made, which all but compels a bachelor or widower to propose to the childless widow of his elder brother or cousin (if she be not past her prime),[1] while she has no choice beyond remaining single or accepting him; should she have no younger brother-in-law (or cousin by marriage), however, she is free to wed whom she will.[2]

17. A young widow who is childless usually returns to the home of her girlhood, but, if elderly, she lives in one of the huts set apart for spinsters, and those who, situated like herself, are eligible for matrimony; during the period of her widowhood it devolves on one of her senior male relatives to act as her guardian; it is not considered decorous that any fresh alliance should be contracted until about a year has elapsed from the date of bereavement.

18. In the case of a widow who has children, it is customary for her to remain in the same community and keep house for her family; during widowhood—if her husband had been a chief or elder—she continues to enjoy the privileges accorded her in his lifetime. Should she re-marry and her husband happen to be a bachelor, or widower "without encumbrances,' it is usual for him to join her community, and live in her hut, but if they both have families it becomes a matter of arrangement between them which establishment shall be given up.

19. Some idea of the erroneous views formerly held respecting their marital relations will be gathered from the following extracts:—(*a*) "There is promiscuous intercourse save with the parent which only ceases in regard to the woman when she is allotted as wife to a man, but is retained as the prerogative of the male sex."[3] (*b*) "Marriage, as we understand the word, is unknown to them, and there seem to be few restrictions of consanguinity, a mother and her daughter being sometimes the wives of the same husband."[4] A similar statement appears in Dr. Brown's work, and the source of both is probably to be found in the following passage in Dr. Mouat's book, in which he publishes several extraordinary stories told by an escaped

[1] It should be added that marriage with a deceased wife's younger sister is equally a matter of necessity on the part of a *childless* widower.

[2] A case of this kind came under my notice where a young man living at one of the homes was reluctantly married to the widow of an elder brother, or cousin, who was considerably his senior, and innocent of any attractions. This *mariage de convenance* proved by no means a happy one, though, so far as could be judged, neither had any just cause of complaint against the other.

[3] *Vide* Mouat.

[4] *Vide* Wood.

convict Sepoy, named *Dudhnáth*,[1] who had apparently spent about thirteen months with the aborigines, during the first two years of our settlement at Port Blair (1858-59):—"A man named *Pootecah*, who doubtless considered him (*Dudhnáth*) a desirable match, offered to bestow upon him, in what they called wedlock, his daughter *Hessa*, a young woman of twenty years of age, whose attractions were doubtless regarded as considerable among her native tribe, and a mere girl named *Ziyah*, a daughter of *Hessa*, who, in that eastern part of the world, was considered quite old enough[2] for the state of marriage. As they were by no means troubled with an uneasy amount of virtue they made no objection to being assigned to the Brahmin soldier in the most unceremonious manner. The two, mother and daughter, at once recognised him as their husband." . . . .

20. The main feature of interest in this story is, however, somewhat marred when it is discovered that the woman (*.lī'pa*[3]), who was well known to us for many years subsequent to the establishment of the homes, was a girl of not more than seventeen at the time of *Dudhnáth*'s escape, and that she had never been a mother prior to her marriage with him.[4] The child (*.yē'ga*, not *Ziyah*) was merely living under *Lī'pa's* protection, and was employed, like all children, in helping to supply the wants of her guardians. The fact of child marriages—not to mention bigamy and concubinage—being quite unknown among them, affords additional support to this statement, which is the result of careful inquiry.

21. *Dudhnáth* being of course aware of the ignorance which prevailed at the time regarding the habits and customs of the Andamanese, appears to have availed himself of the opportunity thus afforded him of drawing largely on his imagination, probably with the object of exciting as much interest as possible in his adventures, and perhaps also of amusing himself with the wonder created by his narrative. Some of his unrecorded[5] stories seem, however, to have been still more

[1] Of all who absconded on this occasion it appears that he was so fortunate as to be the only one who was spared by the aborigines, his companions being shot down as soon as they were discovered.

[2] *Vide ante*, "Development and Decay," paragraph 3, and "Reproduction," paragraph 1.

[3] This was her name. There is no name at all resembling *Hessa* in the language (*vide* Appendix H).

[4] In his report for the month of December, 1866, the officer in charge of the Andaman homes stated that on *Dudhnáth's* desertion of her "she was called *Modo*, which signifies a deserted bride, or a woman that has lost her husband while young, and before becoming a mother." [N.B.—*.mō'da* (not *Modo*) is one of the twelve "flower" names borne by all young women (married and single) until they become mothers (*vide* "Proper Names," paragraph 3, and Appendix H.)]

[5] "Our friend the Sepoy tells some remarkable exploits of the Mincopie in

highly coloured, and failed, therefore, in imposing on the almost excusable credulity which existed at a time when next to nothing of a trustworthy nature was known concerning these savages.

22. With regard to a deceased husband's property, the widow disposes of everything, which she does not require for her personal use, among his male relatives.

23. It seems superfluous to add that no such custom as *suttee* prevails or has ever been known to exist among them.

Death and Burial.—1. Amongst other erroneous opinions held regarding these tribes is that which declares that "no lamentation is publicly made at death," whereas, in point of fact, the demonstrations of grief on such occasions are generally excessive, and are shared, in a greater or less degree, by every member of the community in which the melancholy event occurs.

2. In the case of an infant, the parents and relatives remain weeping for hours beside the corpse; afterwards they smear their persons with a wash composed of *ōg-* (the common olive-coloured clay) and water, and, after shaving their heads, place a lump of the same, called *del'a-*, just above their foreheads[1] where it hardens and is left, much to the individual's discomfort, until the expiration of the days of mourning[2]; should it fall off in the meantime it is renewed.

3. The burial usually takes place within 18 hours of the decease, which time is spent by the mother in painting the head, neck, wrists, and knees of her dead child with *kòi'ob-* and *tâ'la-ōg-*; she also shaves off the hair, and folds the little limbs so as to occupy the least possible space,[3] the knees being brought up to the chin and the fists close to the shoulders; the body is then enveloped in large leaves, called *kâ'pa-*[4], which are secured with cords or strips of cane. The father meantime employs himself in digging a grave with an adze (*wō'lo-*[5]), in the place where his hut fire usually burns; when all is prepared the little head is uncovered, and the parents gently blow upon the face

fishing, which, as they seem to indicate a Munchausen-like facility of exaggeration in the narrator we decline to repeat" (Mouat).

[1] This applies to men, for women usually place the *del'a-* on the top of the head. It is worn by neither sex until after they have attained maturity, and only for a father, mother, husband, wife, brother, sister, son, or daughter, the *ōg-* wash alone being deemed sufficient "mourning" in the case of other relatives or friends.

[2] The term *d'kà-ōg-* is therefore applied to mourners, since they are prohibited from the use of *kòi ob-*.

[3] "If we knew no further details as to the opinions of the intellectually gifted Hottentots, formerly so greatly underrated, it would be enough that, previous to burial, they place the body of the deceased in the same position which it once occupied as an embryo in the mother's womb" (Peschel).

[4] *Vide* Appendix B, item 74.

[5] *Vide* Appendix B, item 15

two or three times in token of farewell;[1] then, replacing the leaves, they put the corpse into the grave in a sitting posture, and fill in and level the earth; next, having procured a quantity of the young leaves of the common jungle cane, they split them and make long fringe-like wreaths, called *â·ra-*,[2] which they fasten to the trees surrounding the hut, or encircling the entire camping ground, the object being to apprise any stranger or friend who might chance to visit the spot, that a death has recently occurred, and that they would therefore do well to keep away.

4. After suspending the *â·ra-* the fire is rekindled and the mother places a shell containing some of her own milk beside the grave, obviously in order that the child's spirit, which is believed to haunt its late home for a few days, may not lack nourishment. All in the encampment then pack up those things which are mostly needed and depart to some other camping ground,[3] generally not less than two or three miles distant, where they at once construct huts, usually of the description called *chàng-tô·rnga-*,[4] to serve as shelter during the mourning period, which as a rule lasts about three months; and during which the parents and relatives, naturally enough, refrain from taking any part in the festivities occurring among their neighbours. While mourning it is customary for the *ē·rem-tâ·ga-* to abstain from pork, and for the *àryô·to-* to deny themselves turtle as well as other luxuries, in token of the sincerity of their grief, but they never mutilate themselves by cutting off joints of their fingers, &c., as do the Hottentots and the Papuans of the Fiji Islands, nor have they, as has been erroneously asserted in Dr. Day's paper, daily, during periods of deep sorrow, to throw honey-comb, if obtainable, into the fire.[5]

5. At the expiration of the time mutually agreed upon, they all return to the deserted encampment and remove and destroy the *â·ra-*. The parents then exhume the remains, which are taken by the father to the sea-shore, or the nearest creek, there to be cleansed[6] from all putrefying matter: this done, he brings

[1] *Vide* ceremony at parting (*post* "Meeting and Parting," paragraph 6).

[2] *Vide* Appendix B, item 73.

[3] Similarly do the Koi-Koin (Hottentots) "break up their kraals after every case of death, to avoid the proximity of the grave" (Peschel).

[4] *Vide* "Journ. Anthrop. Inst.," vol. xi, p. 283, and *ante* "Habitations," paragraph 3.

[5] The practice here referred to is evidently that of burning beeswax (not honey-comb), the object of which will shortly be explained under "Superstitions," paragraph 13, and is not that here stated.

[6] This repulsive duty is always performed by one of the near *male* relatives of a deceased person. Dr. Day was led to believe that "the extraction of the skull and bones, it is considered, requires great skill and courage," but experience and the statements of all those aborigines who have been questioned on the subject, do not bear out this view.

the skull and bones back to his hut and breaks up the latter into small pieces suitable for necklaces.[1] The mother, after painting the skull with *kòi'ob-*, and decorating it with small shells attached to pieces of string, hangs it round her neck with a netted chain, called *râb-*.[2] After the first few days her husband often relieves her by wearing it himself. Infants' skulls, being fragile, are generally preserved carefully from risk of injury by being entirely covered with string, but (except temporarily as when travelling, fishing, &c.) these souvenirs are not carried about in a basket. The next few days are spent by the mother in converting the bones into necklaces, called *chàu'ga-tâ-*, and when several have been made, she and her husband pay visits to their friends, among whom they distribute these mementoes, together with any of the pieces that may remain over, in order that they may make additional necklets for themselves.

6. Before this distribution takes place, it should be mentioned that the mourners remove from their heads the lump of clay placed there on the day of the child's death; the wife also paints her husband's neck, waist, wrists, and knees with *kòi'ob-* and further adorns him with a stripe of the same compound from his throat to his navel, and afterwards decorates herself in a similar manner.

7. All due preparations having thus been made, the friends assemble round the hut to pay their final visit of condolence; whereupon the bereaved father sings some old song of his, which he last sang, perchance, with his little one alive and well in his arms, on which all except himself express their grief and sympathy by breaking out into loud lamentations. The chorus of the song is chanted by the women while the parents perform a dance which goes by the name of *t'ī-tô'latnga-* (*lit.*, the shedding of tears); when wearied with their exertions they retire to their hut, and cease from any further display of sorrow, whereupon their friends generally take up and continue the melancholy dance and song for many hours, the women being then joined by the men, who, till this stage of the proceedings, have merely acted the part of spectators. It should be explained that the character of this dance does not differ from that which is customary at a wedding or other occasion of rejoicing, except in the doleful appearance of the performers.

8. On the death of an adult and others, the relatives (as in the case of an infant) smear themselves with *ōg-* and place a lump of the clay on their heads, where it must remain until the *t'ī-tô'latnga-*; any necklaces, waistbelts, &c., which the deceased was wearing are removed; women then paint the

1 *Vide* Appendix B, item 44.
2 *Vide* Appendix B, item 42.

corpse, whose limbs are folded and enwrapped in the manner above described.

9. What the true significance of this practice may be is not quite clear, as such of the aborigines as have been questioned assert that it is merely for convenience in removal; but since the custom is also observed in infant burials which, as I have mentioned, take place in the very hut wherein the death occurred, it seems probable that a deeper meaning underlies the act; and the real reason may be that which Peschel supplies in his reference to the Hottentots who observe the same custom, *i.e.* "that the dead will mature in the darkness of the earth in preparation for a new birth."[1]

10. As it is not customary for females to attend the funeral, when *their* part is done, they gently blow upon the face, and take their last farewell look.

11. None save infants are buried within the encampment, all others being carried to some distant and secluded spot in the jungle, and there interred or placed upon a "machán," or platform; it is generally arranged beforehand whether of these two methods shall be employed, but the latter is considered the more complimentary, apparently because it involves a little more labour.[2]

12. Arrived at their destination, the corpse, which has been carried by one of the men on his back, is put down, while the final preparations are being made. A spot is selected where there is a boulder or large tree,[3] to mark it, and there, if a grave has been decided on, they dig a hole about 4 or 5 feet deep, with an adze (*wō·lo-*), into which the body is lowered in a sitting posture, facing the east; all present then raise the leaf covering the head, and take leave of their friend by blowing upon his face. Before the grave is filled in the cords or canes are cut, the object being to hasten the process of decomposition by loosening the leaves; a fire is lighted over the spot and a *gōb-*,[4] or nautilus shell, filled with water, as well as some article which belonged to the deceased, is placed beside it: then the surrounding brushwood for some little distance is cleared away, and *â·ra-* are suspended between the trees in the manner and for the purpose before stated.

13. Should it, however, have been determined to dispose of the corpse by the alternative method, a small stage is constructed

[1] This singular practice also prevailed amongst the ancient Peruvians (*vide* "Anthropology of Prehistoric Peru," by T. J. Hutchinson, "Journ. Anthrop. Inst." vol. iv, p. 447, 1875).

[2] Old persons are generally buried.

[3] They never wittingly use the same tree or spot a second time, and are careful to remember those which served on a former occasion.

[4] *Vide* Appendix B, item 82, and "Journ. Anthrop. Inst.," vol. xi, p. 269.

of sticks and boughs, about 8 to 12 feet above the ground, generally between the forked branches of some large tree,[1] and to it the body is lashed. The head is raised slightly, looking eastward, and, though the position of the arms is not altered, the cords are loosened to allow of the legs being straightened, after which the leaves are re-adjusted, so as to cover the entire form, in order to protect it from the attacks of hawks, crows, and vermin.

14. Two reasons are given for the practice of placing the corpse with the face towards the rising sun: one being that dissolution may thereby be hastened, the other that *jĕrĕg-* or Hades, whither the souls of the departed flee, is situated in the east.

15. The mourners take a last farewell in the manner before described, and fulfil the remaining duties, as related in the former case. The spirit of the deceased being supposed to haunt not only the spot where he has been buried, but also the encampment where the death occurred, the community migrate temporarily to another camping ground immediately after the return of the funeral party, leaving the *â'ra-* to witness to casual visitors of the cause of their absence.

16. When the period of mourning has expired the men who assisted in the funeral rites return to the place of burial, destroy the *â'ra-*, and remove the remains of the deceased to the sea-shore, or to a creek, where the bones are cleaned and afterwards conveyed to the old encampment, whither they all return and restore their camp to its normal condition.

17. As all that has been related regarding the distribution of the bones of a child and the subsequent dance applies equally to all cases, further account of these ceremonies here is unnecessary; for fuller information anent the manufacture of the necklaces, &c., I would refer you to the interesting paper by Dr. Allen Thomson, F.R.S., read before this Institute by the author in May last.[2]

18. Although in the majority of cases the display of grief is thoroughly sincere, there is no doubt that they hope, by testifying to their sorrow in the various ways mentioned, to conciliate the spirits of the departed, and to be by them preserved from many misfortunes which might otherwise befall them.[3]

19. In the case of a young married couple who are childless, if either die, the survivor is not the chief mourner, and does not even assist at the obsequies, which are performed solely by

[1] They are careful not to select a fruit-tree, or one used for the manufacture of their canoes, bows, and other implements.

[2] *Vide* vol. xi, p. 295.

[3] *Vide post* "Religious Beliefs," &c., paragraph 24.

the relatives of the deceased, one of whom subsequently takes possession of the skull, and wears it until he (or she) chooses to part with it, or is asked to do so by another member of the family. It should here be stated that it is by no means obligatory upon the survivor of an elderly couple, or any relative, to carry the bones or skull of the deceased for a lengthened period:[1] except in the event of marrying a brother, sister, or cousin of the deceased, these relics can be given at any time to a friend who may ask for them; thus it not unfrequently happens that the remains of one who was a chief or a favourite in his day, are scattered far and wide among his admirers, but when in course of time they get mislaid or broken, the owner is often easily reconciled to his loss, or makes it good by procuring similar mementoes of another and more recently departed friend.

20. It may be said that as a rule no adult is without at least one *chàu·ga-tâ-* (*i.e.*, a human bone necklace), and the skulls, which are generally to be found in every encampment, are worn by each in turn, if only for a few hours.

21. The only difference made on the occasion of the death of a chief, his wife, or one of his near relatives, is that *all* the men and lads of the encampment smear themselves with *ōy-*, and attend the funeral; the relations alone, however, are the mourners during the succeeding weeks or months which intervene before the *t'ī-tô·latnga-*, though, as a token of respect for the deceased, and of sympathy with the mourners, other members of the tribe often abstain from some favourite article of food, and take no part in festivities during the same period.

22. If a member of another tribe happen to die while on a visit, the body would be disposed of in one of the modes I have endeavoured to describe, after which intimation would be sent to the friends of the deceased, so that they might know where to seek for the skeleton when the time for disinterment should arrive.

23. The body of an enemy, stranger, or captive child would be thrown into the sea, or buried *sans cérémonie*, as the bones would never be in request.

24. A sudden death is at once attributed to the malign influence of *.ē·rem-chàu·gala*, if the deceased had been recently in the jungles, or to *jū·ru-win-*, if he had been on the sea; in either case one of the male relatives of the victim, representing the feelings of the community, approaches the spot where the body

[1] I mention this more especially as the erroneous statement made by some early writer, that "a widow wears her husband's skull suspended round her neck for the rest of her life," has been repeated in more recent accounts, and hitherto remains uncontradicted.

is lying, and shoots several arrows in rapid succession into the surrounding jungle, only taking care to avoid injury to the by-standers, and then, seizing a pig-spear, *ēr-dūtnga-*,[1] if *.ēremchàugala* be the demon suspected, or a turtle-spear, *kowai·a l'óko dūtnga-*,[2] if it be *jūru-win-* who is accounted guilty, he pierces the ground all round the corpse, hoping thereby to inflict a mortal injury upon the unseen enemy; while so engaged he vents his grief and indignation in no measured terms of imprecation.

25. When a death which is attributed to *.ērem-chàugala's* malignity occurs so late in the day that the burial has to be deferred till the following morning, those who are not mourners sing in turns throughout the night, in the belief that this demon will thus be deterred from doing any further harm in the encampment.

26. At death they say that *.ērem-chàugala* and his sons feast upon the blood and soft tissues of all who die on land, and that their leavings, excepting of course the bones, are disposed of by worms, *wēn-*, but *jūru-win-* is supposed to consume every portion of those who fall into his clutches.

Meeting and Parting.—1. Contrary to the customs of most races, no salutations[3] pass between friends, even after a more or less lengthened separation, such as rubbing noses, kissing,[4] shaking hands, &c.; but on meeting they remain silently gazing at each other for, in our eyes, an absurdly long time—unless of course one or both be hurried; the younger then makes some commonplace remark which apparently has the effect of loosening their tongues, for they at once commence hearing and telling the news.[5]

2. Relatives, after an absence of a few weeks or months, testify their joy at meeting by sitting with their arms round each other's necks,[6] and weeping and howling[7] in a manner which would lead a stranger to suppose that some great sorrow had befallen them; and, in point of fact, there is no difference observable between their demonstrations of joy on these occasions and those of grief at the death of one of their

[1] *Vide* Appendix B, item 9.

[2] *Vide* Appendix B, item 10.

[3] *Vide* Colebrooke and Anderson.

[4] Kisses are considered indicative of affection, but are only bestowed on infants.

[5] One might imagine that the writer of the article entitled "Chippers of Flint," which appeared in "Cornhill" (vol. xli, p 200), had heard of or witnessed a rencontre of this description, but had not watched its progress, or he would not have spoken of this race as "all but speechless."

[6] *Vide* Plate IX, fig. 2.

[7] This custom resembles that which exists among New Zealanders under the name of the *Tangi.*

number. The crying chorus is started by women, but the men speedily chime in, and groups of three or four may thus be seen weeping in concert until, from sheer exhaustion, they are compelled to desist; then, if neither of the parties are in mourning, a dance is got up, in which the females not unfrequently take part, but the style of their performance differs from that of the males.[1]

3. A husband who is *childless*, and has been absent from his home for some time, on his return to the encampment visits first a blood relation (if any), and when *they* have wept together he goes to his own hut, not in order to shed more tears, but to see and talk to his spouse. The same remark applies to a wife similarly circumstanced. But in the case of married couples who are *parents*, the meeting takes place first between them; the wife hangs round her husband's neck sobbing as if her heart would break with joy at their re-union; when she is exhausted with weeping, he leaves her, and, going to one of his relations, gives vent to his pent-up feelings of happiness by bursting into tears.

4. It is usual for friends at meeting to give each other something which may happen to be in their hands at the time, and these gifts are regarded as tokens of affection.

5. Strangers introduced by mutual friends are always warmly welcomed by the whole community: they, in common with all guests, are the first attended on, the best food in the encampment is set before them, and in every way they are well treated; presents also are often given them, especially when about to take their leave.

6. "Speed the parting guest" is an axiom upon which these people invariably act: the departing visitor is accompanied by his host to the landing-place, or, at all events, some distance on his way; when bidding each other farewell the guest takes the hand of his host and blows upon it; when the compliment has been returned, the following dialogue ensues:—

Departing visitor: *kam wai dōl.* I am off (*lit.*, Here indeed I).

Host: *ô, ū·chik wai ὸn; tain tâ·lik kach ὸn yâ·te?* Very well, go; when will you come again?

Departing visitor: *ñgâ·tek dō ngat mīn ī·kke.* I will bring away something for you one of these days.

Host: *jō·bo la ngōng châ·pikok!* May no snake bite you!

Departing visitor: *wai dō ēr-gē·lepke.* I will take good care of that (*lit.*, I will be watchful).

Afterwards they again blow upon each other's hands, and part,

[1] *Vide post* "Games and Amusements," paragraphs 27 and 30.

shouting invitations and promises for a future date until beyond earshot.

7. When nearing home, after an unusually successful hunting or fishing expedition, the men raise a shout[1] of triumph in order to apprise their friends of their good fortune, and the women take up the cry and express their delight by yelling[2] and slapping their thighs; but when the encampment is entered, these sounds of rejoicing almost invariably cease for a while, and, after depositing their spoils, the hunters remain speechless for some time ere recounting their adventures and exploits: for this strange practice they appear unable to account.

8. No matutinal greetings pass between friends or between husband and wife, and inquiries relating to health are unusual unless addressed to an invalid.

9. When a man is thirsty and wishes also to wash his hands, he first, if alone, stoops down and drinks from the stream, or raises the water to his lips in a leaf or vessel; then, filling his mouth with water, he squirts it over his hands, using his unkempt locks as a towel. Should any one else be present, he would pour the water over his friend's hands as well, not from his mouth, but from a leaf.

10. They do not bathe daily, but at irregular intervals, when oppressed with the heat, or when, from some cause, as, for instance, in gathering honey,[3] their persons become sticky and unpleasant, and ablutions, consistently with comfort at least, cannot be dispensed with. It will be understood that these remarks apply to the *ē·remtâ·ga-*, rather than the *àryô·to-*, who, from the nature of their pursuits, are on the whole fairly clean.[4]

11. During the hot weather they smear their bodies with common white clay, called *ōy-*,[5] dissolved in water, and avoid, as far as they are able, any lengthened exposure to the direct rays of the sun. If compelled to leave the shelter of the jungle, they are in the habit of holding a large leaf screen, *kâ·pa-jâ·tnga-*,[6] over their heads as a protection (this is also done during a shower); should they be travelling by boat they lessen the discomfort caused by excessive heat by pouring water over themselves, or by plunging overboard and swimming alongside the canoe for some part of the way.

[1] There is a specific term for this description of shouting, viz.: *tē·reblake*, while that of the women in answer thereto is called—

[2] *rō·moke*.

[3] *Vide* Appendix H (*lad·a chàu*, lit., dirty body).

[4] They never allow vermin to breed on their persons—in fact, such a thing could not possibly occur, owing to the constant shaving of the head, painting of the person, and, in the case of the *àryô·to-*, immersion in the sea while fishing and turtling.

[5] *Vide* Appendix B, item 59.

[6] *Vide* Appendix B, item 74.

Fire.—1. It would seem that the Andamanese, like the quondam aborigines of Tasmania, have always been ignorant of the art of producing fire.

2. The assertion[1] that these tribes when first discovered, assuming that this refers to either the second or ninth century,[2] were ignorant of the use of fire may or may not be correct; but if any faith can be placed in the traditions held by them on the subject, their acquaintance with it dates from no later period than the Creation![3]

3. The most satisfactory conjecture as to the source whence they first obtained fire appears to me to be based on the fact of there being two islands attached to the group, one of which (Barren Island) contains an active volcano, and the other (Narcondam Island[4]) a now extinct one.

4. Being strangers to any method of producing a flame, they naturally display much care and skill in the measures they adopt for avoiding such inconvenience as might be caused by the extinction of their fires.

5. Both when encamped and while journeying, the means employed are at once simple and effective. When they all leave an encampment with the intention of returning in a few days, besides taking with them one or more smouldering logs, wrapped in leaves if the weather be wet, they place a large burning log or faggot in some sheltered spot, where, owing to the character and condition of the wood invariably selected on these occasions, it smoulders for several days, and can be easily rekindled when required. Decayed pieces of the *Croton argyratus*, and two species of *Diospyros*,[5] and a fourth, called by them *chôr-*, but not yet identified, are chiefly used as fuel. As may be inferred, all labour of splitting and chopping is saved, as it is only necessary

[1] *Vide* Brown.

[2] *Vide* Part I (commencement).

[3] *Vide post* "Mythology," paragraphs 5 and 6.

[4] Regarding this island, which is sometimes shown as Narkandam, Colonel Yule, in his "Marco Polo," writes as follows:—

"Abraham Roger tells us that the Coromandel Brahmins used to say that the *Rakshasas*, or Demons had their abode 'on the Island of Andaman, lying on the route from Pulicat to Pegu,' and also that they were man-eaters. This would be very curious if it were a genuine old Brahminical *Saga*; but I fear it may have been gathered from the Arab seamen. Still it is remarkable that a strange weird-looking island, which rises, covered with forest, a steep and regular volcanic cone, straight out of the deep sea to the eastward of the Andaman group, bears the name of *Narkandam* in which one cannot but recognise नरक, (*Narak*), 'Hell.' Can it be that in old times, but still contemporary with Hindu navigation, this volcano was active, and that some Brahmin St. Brandon recognised in it the mouth of Hell, congenial to the Rakshasas of the adjacent group?"

Colonel Yule adds: "I cannot trace any probable meaning of Andam, yet it looks as if *Narak-andám* and *Andám-án* were akin."

[5] Bastard ebony or marble wood.

to beat a log of this description on a stone or other hard substance a few times before it breaks up into as small pieces as are needed.

6. In each hut that is occupied there is invariably a fire, the object of which is to keep the owner warm, to drive away insects, and to cook food, while the smoke is useful in preserving the store of provisions, which are placed about two feet above it for that purpose.[1]

7. Council fires, or fires burnt on special occasions, are not among their institutions; even the household fire is not held sacred, or regarded as symbolical of family ties, and no rites are connected with it; there are no superstitious beliefs in reference to its extinction or pollution, and it is never employed literally or figuratively as a means of purification from uncleanness, blood, death, or moral guilt.

8. Fires are generally kindled by fanning the embers with a frond of the *Asplenium nidus* (*pi'tla-*), and they are extinguished by pressing the burning logs against some such object as a tree, canoe, or stone.

9. Reference must here be made to the mis-statement which has found its way into several papers concerning the existence of so-called "oven-trees" among the Andamanese. The belief appears to have originated in the practice which prevails among them of taking advantage, during brief halts, of the natural shelter afforded by the peculiar formation of the roots of the *Pterocarpus dalbergioides*, and trees of the *Ficus* genus, so common in these islands, and which, extending like buttresses on all sides of the trunk, are, especially when roofed over with a light thatch such as these people are accustomed to make in a few minutes, capable of accommodating small parties suddenly overtaken by a storm, or needing a temporary resting-place: the traces of fires lighted by successive parties against these trees, and the hollows thus caused, having been noticed, the opinion was formed, and, without sufficient corroborative evidence, promulgated, that they were "purposely charred," and that "great pains is taken in their preservation."[2] As a matter of fact, the Andamanese no more employ oven-trees than do the gypsies in Bulgaria, alluded to by General Pitt-Rivers, F.R.S.,[3] who, using constantly the same trees, have formed a semi-cylindrical chimney, which might reasonably be regarded, by one unacquainted with their habits, as an attempt to form an oven.

10. While it is the women's business to collect the wood, the duty of maintaining the fires, whether at home or while travelling

[1] *Vide ante* "Habitations," paragraph 5.
[2] *Vide* Mouat, pp. 308–9.
[3] *Vide* "Journ. Anthrop. Inst.," vol. xi, pp. 273 and 290 (Appendix I).

by land or sea, is not confined to them, but is undertaken by those of either sex who have most leisure or are least burdened.

11. Probably nothing introduced by us so impressed them with the extent of our power and resources as *matches;* that we should be able to produce fire with such ease and by such means was not unnaturally regarded as evidence of our being superhumanly gifted.

Superstitions.—1. Fire is supposed to possess the power of driving away evil spirits: when, therefore, at night they hear in imagination the approach of the dreaded *.ē·rem-chàu·gala,*[1] they throw burning logs into the jungle surrounding the encampment. Again, should any of the community have occasion to leave their huts at night, no matter how short the distance, he (or she) invariably takes some fire as a protection against any demons that may be in the vicinity; a torch is also taken if it be very dark at the time.

2. Of darkness they assert that it was instituted on account of the misconduct of two of their ancestors, as will shortly be mentioned.[2]

3. From fear of displeasing *mai·a .ō·gar-*[3] (Mr. Moon), during the first few evenings of the third quarter, when he rises after sundown, they preserve silence, cease from any work on which they may be engaged—even halting should they be travelling—and almost extinguish any light or fire which they may be burning. This is owing to the belief that he is jealous of attention being distracted to other objects than himself at such a time, or of any other light being employed than that which he has been graciously pleased to afford so abundantly. By the time the moon has ascended a few degrees, however, they restore their fires and resume their former occupations, as they consider they have then sufficiently complied with *mai·a .ō·gar-'s* wishes and requirements. The glowing aspect of the full moon on its first appearance above the horizon is supposed to indicate that *mai·a .ō·gar-* is enraged at finding some persons neglecting to observe these conciliatory measures; there is also an idea that, if he be greatly annoyed, he will punish them by withdrawing or diminishing the light of his countenance.

4. Regarding meteorolites they appear to possess no superstition. Shooting stars and meteors they view with apprehension, believing them to be lighted faggots hurled into the air by *.ē·rem-chàu·gala* in order to ascertain the whereabouts of any unhappy wight in his vicinity; if, therefore, they happen to be away from

[1] *Vide post* "Religious Beliefs," &c., paragraph 12.

[2] *Vide post* "Mythology," paragraph 31.

[3] Singing, dancing, and thumping on the sounding board at that hour are, however, not displeasing to him.

their encampment when the phenomenon occurs, they invariably secrete themselves, at the bottom of a boat, for example, if fishing, and remain silent for a short time before venturing to resume their interrupted employment.

5. Between dawn and sunrise they will do no work, save what is noiseless, lest the sun should be offended, and cause an eclipse, storm, or other misfortune to overtake them. If, therefore, they have occasion to start on a journey or hunting expedition at so early an hour, they proceed as quietly as possible, and refrain from the practice, observed at other periods of the day, of testing the strength of their bow-strings, as the snapping noise caused thereby is one of those to which the sun objects.

6. They invariably partake of a meal soon after rising, as it is believed that no luck can attend any one who starts to his day's work on an empty stomach.

7. They dare not use the wood of the tree called *al·aba-* (the bark of which supplies the fibre used in making harpoon lines and turtle nets) for cooking turtle, for, as will be found elsewhere,[1] this is an act so abhorrent to *mai·a ·ōyar-* that he visits the offenders with summary and condign punishment.

8. In tempestuous weather the leaves of the *Minusops indica* are constantly thrown on the fires, as the popping sounds thus produced are thought to have the effect of assuaging *Pū·luga-'s* fury and causing the weather to moderate.

9. When they see a dark cloud approaching at a time when rain would prove very inconvenient, as when hunting, travelling, &c., they advise *Pū·luga-* to divert its course by shouting "*wâ·ra-jō·bo kō·pke, kō·pke, kō·pke*" [*Wā·ra-jōbo*[2] will bite, bite, bite (you)]. If in spite of this a shower falls they imagine that *Pū·luga-* is undeterred by their warning.

10. This practice of menacing *Pū·luga-* is probably that to which Colonel Symes alluded when he wrote that "they confess the influence of a malignant Being, and, during the south-west monsoon, when tempests prevail with unusual violence, they deprecate his wrath by wild choruses."

11. Storms are regarded as indications of *Pū·luga-'s* anger; winds are his breath, and are caused to be blown by his will; when it thunders *Pū·luga-* is said to be growling at something which has annoyed him; and lightning, they say, is a burning log flung by him at the object of his wrath.

12. There is an idea current that if during the first half of the rainy season they eat the *Caryota sobolifera*, or pluck and eat the seeds of the *Entada pursætha*, or gather yams or other edible

[1] *Vide post* "Mythology," paragraph 32.

[2] This snake, as already mentioned under "Medicine," appears to be the *Ophiophagus elaps*.

roots, another deluge would be the consequence, for *Pū·luga-* is supposed to require these for his own consumption at that period of the year; the restriction, however, does not extend to the *fallen* seeds of the *Entada pursætha*, which may be collected and eaten at any time with impunity.

13. Another of the offences visited by *Pū·luga-* with storms is the burning of beeswax,[1] the smell of which is said to be peculiarly obnoxious to him. Owing to this belief it is a common practice secretly to burn wax when a person against whom they bear ill-will is engaged in fishing, hunting, or the like, the object being to spoil his sport and cause him as much discomfort as possible; hence arises the saying among them, when suddenly overtaken by a storm, that some one must be burning wax.

14. The rainbow is regarded as *.ē·rem-chàu·gala's* dancing or sounding board, which is only visible at certain times; its appearance is said to betoken approaching sickness or death to one of their number, and is, therefore, inauspicious.[2]

15. There are no superstitions anent hills, valleys, rocks, &c., which, as stated in my last paper,[3] *Pū·luga-* is believed to have formed for some purpose of his own. The formation of creeks is attributed to a fortunate accident, the account of which being connected with their traditions must be reserved for that section.[4]

16. They imagine earthquakes to be caused by some mischievous male spirits of their deceased ancestors, who, in their impatience at the delay in the resurrection, combine to shake the palm-tree on which they believe the earth to rest, in the hope thereby of destroying the cane bridge[5] which stretches between this world and heaven, and alone maintains the former in its present position. These selfish spirits are, however, said to be careful never to indulge in such practices during the dry months, as they imagine that, in consequence of the surface of the earth being then much cracked with heat, there would be considerable risk of its tumbling about their ears and crushing them instead of toppling over in one solid mass. They are said, therefore, never to play at earthquakes except during, or shortly after, the rainy season. But for the intervention of female spirits, who do their utmost to dissuade or prevent their male companions from continued enjoyment of this dangerous pastime, they are persuaded that there would be much cause for alarm on every occurrence of an earthquake.

17. They believe that every child which is conceived has had a

[1] *à·ja-pi·d-* (*vide ante* "Death and Burial," paragraph 4, foot-note).

[2] The Chippeway Indians call it the dancing spirit (*vide* "Travels in the Interior of North America," by Maximilian, Prince of Wied).

[3] *Vide ante* "Topography," paragraph 3.

[4] *Vide post* "Mythology," paragraph 13.

[5] *Vide post* "Religious Beliefs," &c., paragraph 25.

prior existence, but only as an infant. If a woman who has lost a baby is again about to become a mother, the name borne by the deceased is bestowed on the fœtus, in the expectation that it will prove to be the same child born again. Should it be found at birth that the babe is of the same sex as the one who died, the identity is considered to be sufficiently established, but if otherwise the deceased one is said to be under the *ràu-* (*Ficus laccifera*) in *.chà·itâ·n-* (Hades).[1]

18. They have no peculiar ideas in reference to yawning, hiccoughing, spitting, or eructating, and hissing[2] is unknown.

19. To sneeze is auspicious, and therefore regarded with favour. When any one sneezes the bystanders ask, "Who is thinking of you?" to which the person replies by naming some absent friend, or, should he be alone when he sneezes, he says, "Here I am at ——" (naming the place).

20. If they have a dream which they regard as bad, as, for instance, that a canoe was dashed on a reef, or that an accident occurred while pig-hunting, or even if, when awake, they hear two canoes bumping against each other while at anchor, they consider it essential to accept such as a warning, and act accordingly, viz., by taking steps to incur no risk of a misadventure: this is generally accomplished by remaining at home for two or three days.

·21. A small striped snake called *là·raba-* is supposed to produce the streams of the red oxide of iron, *kòi·ob-chū·lnga-*, and olive-coloured clay, *chū·lnga-*, so much employed by them; the ground for the belief is the alleged fact that this snake, when disturbed, ejects from its tail a whitish fluid, which is of a deadly nature. They declare that the poison is such that it cannot be removed by washing or other means, and that it causes intense pain to the victim, who invariably dies within a few hours.

22. There is a small bird, not yet identified, called by them *pī·chrō l-*, the meeting with which is looked upon as ominous of an approaching death in their midst. When a woodpecker is heard tapping on a tree he is said to be giving warning of the approach of *ū·lu-*,[3] so they proceed in fear and trembling until the danger is supposed to be past. The notes of the *pui-* and *ràteg·i-* (two birds not yet identified) are regarded as a sign that there are enemies in the vicinity. When, therefore, either of these are heard, they at once retrace their steps, if they happen to be on the move, or, should they be in an encampment, they

[1] *Vide ante* "Proper Names," paragraph 1, and *post* "Religious Beliefs," &c., paragraphs 22 and 23.

[2] This is accounted for by the absence of sibilants in their language (*vide* Appendix A).

[3] A legendary elephant, to be spoken of under "Mythology," paragraph 30.

temporarily vacate their huts and remain on the alert with their weapons ready for immediate use. The cry of another bird, called *chē·ra-*, informs them of the approaching visit of a friend. Finally, if while travelling they hear the cawing of a crow, they say they must be near some occupied, or recently abandoned encampment. This belief is doubtless traceable to the fact that these birds are among the principal scavengers of their camping grounds.

23. It has been noticed that they will never whistle between sunset and sunrise, and the reason they give is that this sound, more than any other, attracts *ē·rem-chàw·gala* during those hours. When animals behave in an unaccountable manner, especially at night, it is said to be because they see this demon.

Religious Beliefs and Demonology.—1. I have several times mentioned the Supernatural Beings, *Pū·luga-* and *ē·rem-chàw·gala*, and must now enter more into detail regarding the beliefs held by the Andamanese concerning these and other spirits.

2. Though no forms of worship or religious rites are to be found among them, yet are there certain beliefs regarding powers of good and evil, the Creation, and of a world beyond the grave, which show that even these savages have traditions more or less approximating the truth, but whence derived will ever remain a mystery.

3. It is extremely improbable that their legends were the result of the teaching of missionaries or others who might be supposed to have landed on their shores in by-gone years; for not only have they no tradition of any foreigners having settled in their midst and intermarried with their ancestors, or even of having so far established amicable intercourse as to be able to acquire a knowledge of any one of their languages, but our own records, so far from differing from theirs on these points, tend clearly to show that, from the earliest times till so recently as 1858, these islanders have been more or less universally regarded as cannibals, in consequence of which they were much dreaded by all navigating the adjacent seas. The persistency with which they resisted with showers of arrows all attempts to land on their shores,[1] precludes the belief that any one, prior to our settlement,[2] would from choice have visited these islanders in the vain hope of reclaiming them from their savage state, and in order to teach them the Biblical, Mohammedan, or other versions of the Creation, Fall, Deluge, &c.; while it may surely be

[1] The probable cause of their hostility will be explained in a later section (*vide post* "Trade," &c., paragraph 1).

[2] In 1870 an orphanage was established at Ross Island (Port Blair) for children of the aborigines, but it is very doubtful whether even the more intelligent of the inmates have obtained, much less retained, more than an elementary knowledge of the outline of the truths of Christianity.

assumed that if any shipwrecked persons had ever been cast on their coast, they would, in the improbable event of their lives being spared, have left some traces of the fact, such as might be looked for among the customs, in the culture, or physical characteristics of these savages, but these are vainly to be sought in any section of the race.

4. Moreover, to regard with suspicion, as some have done, the genuineness of such legends as those in question argues ignorance of the fact that numerous other tribes,[1] in equally remote or isolated localities have, when first discovered, been found to possess similar traditions on the subjects under consideration.

5. Further, on this subject as well as on all others in which there appeared any risk of falling into error, I have taken special care not only to obtain my information on each point from those who are considered by their fellow-tribesmen as authorities, but who, from having had little or no intercourse with other races, were in entire ignorance regarding any save their own legends: I have, besides, in every case, by subsequent inquiry, endeavoured to test their statements, with the trustworthiness of which I am thoroughly satisfied. I may also add that they all agree in stating that their accounts of the Creation, &c., were handed down to them by their first parent *Tó·mo-* (Adam), and his immediate descendants, while they trace all their superstitions and practices to the "days before the Flood"!

6. I shall presently speak of the legends current anent the Creation, and also the Fall and Deluge: the latter will there be seen to have been, *selon eux*, consequent on the former.

7. In spite of their knowledge of, or belief in, a Supreme Being,[2] whom they call *Pū·luga-*, they live in constant fear of certain evil spirits, whom they apprehend to be ever present, and on the watch to do them some bodily injury.

8. Of *Pū·luga-* they say that—

I. Though His appearance is like fire, yet He is (now-a-days) invisible.

II. He was never born and is immortal.

III. By him the world and all objects, animate and inanimate, were created, excepting only the powers of evil.

IV. He is regarded as omniscient while it is day, knowing even the thoughts of their hearts.

V. He is angered by the commission of certain sins,[3] while to

[1] A story of the Fall occurs in the myths of the Eskimo, the South Sea Islanders, the Zulus, the Australians and the New Zealanders (*vide* "Biblical Traditions and Savage Myths."—*St. James' Gazette*, July 14th, 1881.)

[2] *Vide* Mouat, pp. 303–4

[3] *Vide ante* "Crimes," paragraph 2

those in pain or distress he is pitiful, and sometimes deigns to afford relief.

VI. He is the Judge from whom each soul receives its sentence after death, and, to *some* extent, the hope of escape from the torments of *.jer·eg-làr-mū·gu-* (regarding which anon) is said to affect their course of action in the present life.[1]

9. *Pū·luga-* is believed to live in a large stone house in the sky, with a wife whom he created for himself; she is green in appearance, and has two names, *chān·a .àu·lola* (Mother Fresh-water Shrimp), and *chān·a .pâ·lak-* (Mother Eel); by her he has a large family, all, except the eldest, being girls; these last, known as *mô·ro-win-* (sky spirits or angels), are said to be black in appearance, and, with their mother, amuse themselves from time to time by throwing fish and prawns into the streams and sea for the use of the inhabitants of the world. *Pū·luga-'s* son is called *.pūj-chô·r-*: he is regarded as a sort of archangel, and is alone permitted to live with his father, whose orders it is his duty to make known to the *mô·ro-win-*.

10. *Pū·luga-* is said to eat and drink, and, during the dry months of the year, to pass much of his time in sleep, as is proved by his voice (thunder) being rarely heard at that season; he is the source whence they receive all their supplies of animals, birds, and turtles; when they anger him he comes out of his house and blows, and growls, and hurls burning faggots at them—in other words, visits their offences with violent thunderstorms and heavy squalls; except for this purpose he seldom leaves home, unless it be during the rains, when he descends to earth to provide himself with certain kinds of food; how often this happens they do not know since, now-a-days, he is invisible.

11. *Pū·luga-* never himself puts any one to death, but he objects so strongly to seeing a pig badly quartered and carved that he invariably points out those who offend him in this respect to a class of malevolent spirits called *.hôl-*, one of whom forthwith despatches the unfortunate individual.

12. *Pū·luga-* has no *authority* over the evil spirits, the most dreaded of which are *.ē·rem-chàu·gala*, *.jū-ru-win-*, and *.nū·la-*; they are self-created, and have existed from time immemorial. The first of these, the evil spirit of the woods, has a numerous progeny by his wife *chān·a .lad·gilola*, who remains at home with her daughters and younger children, while her husband and grown-up sons roam about the jungles with a lighted torch

[1] It is from regard to the fact that their beliefs on these points approximate so closely to the true faith concerning the Deity that I have adopted the English method of spelling all equivalents of "God" with an initial capital.

attached to their left legs, in order that the former may injure any unhappy wights who may meet them unprotected,[1] and in the dark; he generally makes his victims ill, or kills them by wounding them internally with invisible arrows,[2] and, if he is successful in causing death, it is supposed that they feast upon the raw flesh[3]; *.ēr̈em-chàugala*, indeed, appears to be to the Andamanese much what "*Arlak*"[4] is to the aboriginal Australian: in both cases these evil spirits are represented as afraid of light; *.ēr̈em-chàugala* is said to be also afraid of, or to avoid, the demon *.nīla-*.

13. This spirit. *.nīla-*,[5] is supposed to live in ant-hills, and to have neither wife nor child; he is not regarded as such a malevolent personage as *.ēr̈em-chàugala*, and, though he is always armed with a knife, he rarely injures human beings with it, or, when he does do so, it is not in order to feed upon their bodies, for he is said to eat earth only.

14. As regards *.jūr̈u-win-*, the evil spirit of the sea, they say that he too is invisible, and lives in the sea with his wife and children, who help him to devour the bodies of those who are drowned or buried at sea; fish constitute the staple of his food, but he also occasionally, by way of variety, attacks the aborigines he finds fishing on the shores or by the creeks. The weapon he uses is a spear, and persons who are seized with cramp or any sudden illness, on returning from, or while on the water are said to have been "speared" by *.jūr̈u-win-*. He has various submarine residences, and boats for travelling under the surface of the sea, while he carries with him a net, in which he places all the victims, human or piscine, he may succeed in capturing.

15. Besides these three chief demons, there is a company of evil spirits who are called *.chôl-*, and who are much dreaded. They are believed to be descendants of *maïa .chôl-*,[6] who lived in antediluvian times. They generally punish those who offend them by baking or roasting pig's flesh, the smell of which is particularly obnoxious to them, as it is also to *Pūluga-*, who, therefore, often assists them in discovering the delinquent; the same risk does not attend *boiling* pork,[7] which the olfactory nerves of the fastidious *.chôl-* are not keen enough to detect.

[1] *Vide ante* "Superstitions," paragraph 1.

[2] *Vide ante* "Medicine," paragraph 1 (foot-note), and "Death and Burial," paragraph 24.

[3] *Vide ante* "Death and Burial," paragraph 26.

[4] *Vide* Wood, "Natural History of Man," p. 92.

[5] Cases have been cited of persons who have been found stabbed, whose deaths are attributed to *Nīla*: the possibility of the individuals in question having been murdered is scouted.

[6] *Vide post* "Mythology," paragraph 33.

[7] *Vide post* "Food," paragraph 27

16. While the Andamanese say that they are liable to be struck by *.ē·rem-chàu·gala* or *.jū·ru-win-* at any time or in any place, the *.chôl-* strike those only who offend them, and that during the day while they are stationary, this being necessitated by the distance from the earth of their abode, whence they hurl their darts: an invisible spear is the weapon they always use, and this is thrown with unerring aim at the head of their victims, and is invariably fatal. As these demons are considered especially dangerous on the hottest days, they are apparently held accountable for the deaths from sunstroke which happen from time to time.

17. The sun, *chăn·a .bo·do-*, is the wife of the moon, *mai·a .ō·gar-*, and the stars, *.châ·to-*, which are of both sexes, are their children: the latter go to sleep during the day; the whole family have their meals near *Pū·luga-*'s house, but never enter it. *.chăn·a .bō·do-* is like fire and covered with thorns, but *mai·a .ō·gar-* is white skinned, and has two long tusks[1] and a big beard; their home is situated somewhere below the eastern horizon, and while the former, after setting, rests till dawn, the latter, probably in consequence of the cares of his numerous family, is obliged to keep very irregular hours. During their passage under the earth to their home, they are believed to afford the blessing of light to the unfortunate spirits in Hades, and also, while sleeping, to shed a "dim religious light" over that region: it is by *Pū·luga-'s* command that the celestial bodies, while crossing the sky, bestow their light.

18. The phenomena of the waning and waxing of the moon is explained by saying that they are occasioned by "his" applying a coating of cloud to his person by degrees, after the manner of their own use of *kòi·ob-* and *tâ·la-ōy-*,[2] and then gradually wiping it off.[3]

19. Reference has already been made to their superstition regarding the cause of a lunar eclipse, but in case *mai·a .ō·gar-* should be so ill-advised as permanently to withhold his light or render himself in other ways still more disagreeable, whenever the moon is eclipsed some persons at once seize their bows and twang them as rapidly as possible, thereby producing a rattling sound as if discharging a large number of arrows, while others commence at once sharpening their *râ·ta-*.[4] Of course this hostile demonstration is never lost upon the moon, who does not venture to hurt those who show themselves ready

[1] The horns of the crescent moon.

[2] *Vide* Appendix B, items 58 and 60.

[3] "The Eskimo say that the sun, which they regard as feminine, smears the face of her brother, the moon, with soot, when he presses his love upon her" (*vide* Peschel, p. 256).

[4] *Vide* Appendix B, item 2.

to give him so uncomfortable a reception. Their immunity from harm on these occasions has given rise to some joking at the expense of the luminary in question, for, during the continuance of the eclipse, they shout in inviting tones to the hidden orb as follows:—*.ō·gar-, la den bal·ak ban lē·be ng'ūdō·ati! dō·ati! dō·ati!*[1] (O moon, I will give you the seed of the *balak!* show yourself! appear! appear!)

20. This seems to explain the custom which Colonel Symes describes as adoration to the sun and moon, for, as has been stated, no traces of worship or forms of religion, in the common acceptation of the term, exist among these tribes.

21. A solar eclipse alarms them too much to allow of their indulging in jests or threats, &c.: during the time it lasts they all remain silent and motionless, as if in momentary expectation of some calamity.

22. The world, exclusive of the sea, is declared to be flat and to rest on an immense palm-tree (*Caryota sobolifera*) called *bâ·rata-*, which stands in the midst of a jungle comprising the whole area under the earth. This jungle, *.châ·ità·n-* (Hades), is a gloomy place, for, though visited in turn by the sun and moon, it can, in consequence of its situation, be only partially lighted: it is hither the *spirits* (*chàw·ga-*) of the departed are sent by *Pū·luga-* to await the Resurrection.

23. No change takes place in *.châ·ità·n-* in respect to growth or age; all remain as they were at the time of their departure from the earth, and the adults are represented as engaged in hunting, after a manner peculiar to disembodied spirits. In order to furnish them with sport the spirits of animals and birds are also sent to *.châ·ità·n-*, but as there is no sea there, the *chàw·ga-* of fish and turtle remain in their native element and are preyed upon by *jū·ru-win-*. The spirits (*chàw·ga-*) and souls (*ōt-yō·lo-*) of all children who die before they cease to be entirely dependent on their parents (*i.e.*, under six years of age) go to *.châ·ità·n-*, and are placed under a *ràu-*tree[2] (*Ficus laccifera*) on the fruit of which they subsist. As none can quit *.châ·ità·n-* who have once entered, they support their stories regarding it by a tradition that in ages long past an *ôko-pai·ad-*[3] was favoured in a dream with a vision of the regions and of the pursuits of the disembodied spirits.

24. Some of their legends, as will be seen elsewhere,[4] appear to bear out the doctrine of the transmigration of souls, as

[1] This is said derisively, for, although these seeds are largely consumed by the pigs, the aborigines themselves do not consider them fit for food.

[2] *Vide ante* "Superstitions," paragraph 17.

[3] *Vide ante* "Magic and Witchcraft," paragraph 1.

[4] *Vide post* "Mythology," paragraphs 15, 16, 29.

certain of their ancestors (*.tô'mola*) are stated to have vanished from earth in the form of various kinds of animals and fish. The spirits of those not thus transformed, although in Hades are believed occasionally to assist them in performing tasks of unusual difficulty; and it is thought that all the departed are to some extent conscious of what transpires in the world they once inhabited, and are able to promote the welfare of those who bear them in mind.[1]

25. Between the earth and the eastern sky there stretches an invisible cane bridge (*pī'dga-làr-chàu'ga-*) which steadies the former and connects it with *jer'eg-* (paradise); over this bridge the *souls* (*ōt-yō'lo-*) of the departed[2] pass into paradise, or to *jer'eg-làr-mū'gu-*, which is situated below it: this latter place might be described as purgatory, for it is a place of punishment for those who have been guilty of heinous sins, such as murder. Like Dante, they depict it as very cold, and therefore a most undesirable region for mortals to inhabit. From all this it will be gathered that these despised savages believe in a future state, in the resurrection, and in the threefold constitution of man.

26. In serious illness the sufferer's spirit (*chàu'ga-*) is said to be hovering between this world and Hades,[3] but does not remain permanently in the latter place until some time after death, during which interval it haunts the abode of the deceased and the spot where the remains have been deposited.[4] In dreams it is the soul which, having taken its departure through the nostrils, sees or is engaged in the manner represented to the sleeper.

27. The Andamanese do not regard their shadows[5] but their *reflections* (in any mirror) as their souls. The colour of the soul is said to be red, and that of the spirit black, and, though invisible to human eyes,[6] they partake of the form of the person to whom they belong. Evil emanates from the soul, and all good from the spirit; at the resurrection they will be re-united and live permanently on the new earth, for the souls of the wicked will then have been reformed by the punishments inflicted on them during their residence in *jer'eg-làr-mū'gu-*.

28. The future life will be but a repetition of the present, but all will then remain in the prime of life, sickness and death will be unknown, and there will be no more marrying or giving in

[1] *Vide ante* "Medicine," paragraph 8, and "Death and Burial," paragraph 18.
[2] Their *spirits* (*chàu'ga-*) pass to .chà itàn- (*vide* paragraphs 22 and 23).
[3] *Vide* "Journ. Anthrop. Inst.," vol. xi. p. 289.
[4] *Vide ante* "Death and Burial," paragraphs 4 and 15.
[5] As is believed to be the case among certain races, *e.g.*, the Benin negroes.
[6] *Vide ante* "Magic and Witchcraft," paragraph 7.

marriage. The animals, birds, and fish will also re-appear in the new world in their present form.

29. This blissful state will be inaugurated by a great earthquake,[1] which, occurring by *Pū·luga-'s* command, will break the *pī·dya-làr-chàu·ga-* and cause the earth to turn over: all alive at the time will perish, exchanging places with their deceased ancestors.[2]

30. There is no trace to be found of the worship of trees, stones, or other objects, and it is a mistake to suppose[3] that they adore or invoke the celestial bodies. There is no salutation, dance, or festival of any kind held in honour of the new moon: its appearance does not evoke anything more than an exclamation such as *yē·lo! ·ō·gar l'àu·lō·atire.* (Hurrah! there's the moon.)

Mythology.—1. In other sections mention has been made of *Pu·luga-*, the Creator of all, and it has also been stated that no reason is given for the formation of the earth's surface, except that it was according to His will, and the same hypothesis is held to account for the varying seasons.

2. Until recent years it was supposed[4] that the Andamanese were without traditions, and had no idea of their own origin, but since we have been enabled to become better acquainted with them it has been ascertained that such is not the case. While I have been extremely careful as to the source whence I obtained my information, I would at the same time mention that much that is found under these last headings has been obtained from the older and more intelligent members of distant communities, and is probably little, if at all, known to many of the rising generation in our immediate vicinity.

3. Certain mythic legends are related to the young by *ôko-pai·ad-'s*[5] parents and others, which refer to the supposed adventures or history of remote ancestors, and, though the recital not unfrequently evokes much mirth, they are none the less accepted as veracious. The personages figuring in these tales are believed to be real and historical, but, beyond the fact of a very general acceptance and agreement of the traditions respecting them, no satisfactory traces are to be found of their existence except in the lively imaginations of their descendants.

4. There are a few discrepancies in their accounts of the

[1] *Vide ante* "Superstitions," paragraph 16.

[2] Whether the fate of the former is irrevocably fixed is not explained, but with these, as with other savages, it is in vain to expect them to understand the logical conclusions to which their beliefs tend.

[3] *Vide* statements of Symes, Brown, Grant, and Anderson; *vide* also *ante* "Superstitions," paragraphs 9 and 10.

[4] *Vide* Mouat, p. 343.

[5] *Vide ante* "Magic and Witchcraft," paragraph 1.

creation and origin of the human species, but in the main features all are agreed. The following tradition appears to be the most generally received, and, as far as possible, it is given in the words in which it was first taken down:—

5. In the beginning, after the world had been made, *Pū·luga-* created a man whose name was *.tô·mo-*[1]; he was black, like the present inhabitants, but much taller and bearded. *Pū·luga-* showed him the various fruit-trees in the jungle, which then existed only at *.wòtàem·i-*[2] (the "Garden of Eden"), and, in doing so, told him not to partake of certain of them during the rains: he then taught him how to obtain and use fire; this he did by first stacking in alternate layers two varieties of wood known as *chôr-* and *bēr-*, and then bidding *chän·a .bō·do-* (Mother Sun) to come and sit on or near the pile until she had ignited it, after which she returned to her place in the sky. *.tô·mo-* was then taught how to cook pigs, which were easily caught, as they had in those days neither ears nor noses.

6. Another version relates that *Pū·luga-* came with a spirit or angel called *lach·i*[3] *.pū·nga .â·blola* to instruct *.tô·mo-*, who, at his direction, prepared a pyre and then struck it, on which the fire was kindled, and *.pū·nga .â·blola* proceeded to teach him how to cook food.

7. About the origin of the first woman, whose name was *chän·a .ē·lewadi*, there is a diversity of belief: according to some, *Pū·luga-* created her after he had taught *.tô·mo-* how to sustain life; others say that *.tô·mo-* saw her swimming near his home and called to her, whereupon she landed and lived with him; while a third story represents her as coming pregnant to Kyd Island, where she gave birth to several male and female children, who subsequently became the progenitors of the present race.

8. These legends ascribe the name *.tô·mola* to all the descendants of their first parents until the period of the Deluge. *.tô·mo-* had two sons and two daughters by *chän·a .ē·lewadi;* the names of the former were *.bī·rola* and *.bô·rola*, and of the latter *.rī·ela* and *.chô·rmila*.

9. As time went on, the pigs multiplied to such an extent that they became a nuisance, so, with woman's ready wit, *chän·a .ē·lewadi* drilled holes in their heads and snouts, thereby giving them the powers of hearing and smelling, and enabling them to avoid danger and procure food for themselves. *Pū·luga-* then covered the whole land with jungle, into which the pigs

[1] The name of the first man among the Brazilians was *Tamoi* (*vide* Tylor's "Anthropology").

[2] Situated about long. 92° 52′, and lat. 12° 18′. Some assert that this event occurred at *.tô·lo-kòt·imi-*, which is in the same district.

[3] *lach·i* is applied to deceased persons, and answers to "the late."

wandered in various directions.[1] But this change was found to have its disadvantages, as it became next to impossible to catch the now wily *sus.* *Pū·luga-*, however, again came to the rescue, and taught *.tô·mo-* how to construct bows and arrows, and to hunt, after which he taught him to manufacture canoes and harpoons, and to fish. On a subsequent visit[2] he instructed *chăn·a .ē·lewadi* in the art of basket and net-making, and in the use of red-ochre (*kòi·ob-*) and white clay[3] (*tâ·la-ōg-*), and thus by degrees he imparted to their first parents a knowledge of the various arts which have ever since been practised among them.

10. *.tô·mo* and *.ē·lewadi* were also told that, though they were to work in the wet months, they must not do so after sundown, because by doing so they would worry the *bū·tu-*,[4] which are under *Pū·luga-*'s special protection. Any noise, such as working (*kō·pke*) with an adze, would cause the *bū·tu-'s* heads to ache, and that would be a serious matter. During the cold and dry seasons work may be carried on day and night, as the *bū·tu-* is then seldom seen, and cannot be disturbed.

11. As soon as the first couple were united *Pū·luga-* gave them the *.bō·jig-yâ·b-* dialect, which is the language spoken to this day, according to their belief, by the tribe inhabiting the south and south-eastern portion of middle Andaman, in which district *.wòtàem·i-* is situated. It is, therefore, regarded as the mother tongue, from which the dialects of the various other tribes have sprung.

12. The canoes used in those days are said to have had no outriggers, and were made by scooping out the trunk of the *Pandanus*, which is believed to have been much larger than it is now-a-days, and well adapted for the purpose.

13. The formation of creeks is attributed to a fortunate accident: it happened that one day *.tô·mo-* harpooned a large fish, called *kô·ro-ngid·i-chàu-*, which had a projecting snout wherewith it lashed the shore in its frantic efforts to escape; so violent were the blows that the land was broken each time they fell, a result which proved of great benefit and service to the redoubtable harpooner and his descendants.

14. *.tô·mo-* lived to a great age, but even before his death his offspring became so numerous that their home could no longer accommodate them. At *Pū·luga-'s* bidding they were furnished with all necessary weapons, implements, and fire, and then

[1] Another version states that *.tô·mo-* caused the jungle to spring up beyond *.wòtàem·i-* by stringing flies on a number of arrows, and shooting them off, whereupon they turned into trees, and soon spread over the country.

[2] In those days *Pū·luga-* lived at Saddle Peak (*vide ante* "Topography," paragraph 2), and being so near, used often to pay them a visit.

[3] *Vide post* paragraph 27, and Appendix B, items 58 and 60.

[4] *Vide post* "Food," paragraph 18.

scattered in pairs all over the country. When this exodus occurred *Pū·luga-* provided each party with a distinct dialect.[1]

15. After the dispersion of the surplus members of his family, *.tô·mo*, one day while hunting, fell into a creek called *.yàr·a- tig-jig-*, and was drowned. He was at once transformed into a cachalot (*.kâ·ra-dū·ku-*), and from him have sprung all the cetaceans of this class.[2] *chün·a .ē·lewadi*, ignorant of the accident that had befallen her husband, went in a canoe with some of her grandchildren to ascertain the cause of his continued absence; on seeing them, *.kâ·ra-dū·ku-* upset their skiff, and drowned his wife and most of her companions. She became a small crab, of a description still named after her, *.ē·lewadi-*, and the others were transformed into iguanas.[3]

16. Consequent on the disappearance of *.tô·mo-* and his wife, the duties of headship over the community at *.wòtàem·i-* devolved upon one of their grandchildren, named *.kô·lwô·t-*, who was distinguished by being the first to spear and catch turtles. The *.tô·mola* remained on the islands long after *.tô·mo-'s* transformation, but after *.kô·lwô·t-'s* death, according to one legend, they grew disobedient, and as *Pū·luga-* ceased to visit them, became more and more remiss in their observance of the commands given at the Creation. At last *Pū·luga-'s* anger burst forth, and, without any warning, he sent a great flood which covered the whole land,[4] and destroyed all living. Four persons (two men, *.lô·ralola* and *.pō·ilola*, and two women, *.kâ·lola* and *.rī·malola*), who happened to be in a canoe when the catastrophe occurred, were able to effect an escape. When the waters subsided, they found themselves near *.wòtàem·i-*, where they landed and discovered that every living thing on earth had perished; but *Pū·luga-* re-created the animals, birds, &c. In spite of this, however, they suffered severely, in consequence of all their fires having been extinguished, and they could devise

[1] It would almost seem that, without straining the legend to suit facts, we might discern in this a faint echo of the Biblical account of the confusion of tongues and dispersion at Babel.

[2] They consider that the whale is evil disposed towards them, and attribute their occasional non-success in catching turtles to his influence. *.kâ·ra-dū·ku-* is also accused of inciting sharks and other large fish to attack them.

[3] Another version of this story is, that wearied with an unsuccessful day's hunting, *Tô-mo* went to the shore where he found a *chī·di-* (*Pinna*) shell-fish; while playing with it, it fastened on him, and he was unable to free himself until a *baï·an-* (*Paradoxurus*) seized the *chī·di-* and liberated him at the expense of one of his members. Shortly after he saw his wife and some of their children coming after him in a canoe; unwilling that they should become aware of the misfortune which had befallen him, he upset the canoe, drowning its occupants and himself. He then became *.kâ·ra-dū ku-*, and the others *.dū·ku-*, which are now very plentiful in the jungles.

[4] Some modify this statement by saying that Saddle Peak, where *Pū·luga-* then dwelt, was not submerged.

no means of repairing their loss. At this juncture one of their recently deceased friends appeared in their midst in the form of a bird named *.lū·ratūt-*.[1] Seeing their distress he flew up to *mô·ro-*, the sky, where he discovered *Pū·luga-* seated beside his fire; he thereupon seized[2] and attempted to carry away in his beak a burning log, but the heat or weight, or both, rendered the task impossible, and the blazing brand fell on *Pū·luga-*, who, incensed with pain, hurled it at the intruder; happily for those concerned, the missile missed its mark and fell near the very spot where the four survivors were deploring their condition. As *.lū·ratūt-* alighted in their midst at the same moment, he gained the full credit of having removed the chief cause of their distress.[3]

17. Being relieved from anxiety as to their means of subsistence, *.lô·rola* and his companions began to entertain sentiments of anger and resentment against *Pū·luga-* for his wholesale destruction of their friends, and, accordingly, when they met him one day at *.tô·lo-kòt·imi-*, they determined to kill him, but were deterred from their purpose by *Pū·luga-* himself, for he assured them that, whereas he was as hard as wood and could not be injured by their arrows, any attempt they might venture to make on his life would cause him to destroy them all. Having reduced them to submission by these assurances, *Pū·luga-* explained that they had brought the Deluge upon themselves through their wilful disobedience of the strict injunctions he had laid down, and which had always been observed by their forefathers, and he intimated that a repetition of their transgressions would inevitably lead to their utter destruction.

18. This is said to be the last occasion on which *Pū·luga-* rendered himself visible, or held any communication with them, but the warning he then gave them has not been forgotten, and the islanders are to this day strict in their observance of his commands.

19. Another legend regarding the origin of the Deluge states that one day, at the commencement of the rainy season, a *.tô·mola* named *.bē·rebi-* came to visit *.kô·lwô·t-'s* mother, *chăn·a .ē·rep-*, with the express intention of seeing her son, of whom he

[1] A small variety of kingfisher.

[2] The myth of Prometheus will recur to the reader.

[3] Since that day till the present time, they say they have never been without fire, thanks to the precautions they employ to guard against its extinction. I would add that when first making my investigations on this subject some six years ago, I was led to believe that this kingfisher is regarded by the present inhabitants with a certain amount of veneration (*vide* "The Lord's Prayer in the South Andaman dialect," p. 49), but I have since been assured that such is not the case.

was extremely jealous. When he appeared, *.bē·rebi-* treacherously bit him in the arm, but his teeth became fixed in the flesh and he was therefore unable to detach himself from his victim, whose friends promptly avenged his murder, and disposed of the corpses by throwing them into the sea.[1] The bereaved mother, in her rage, grief, and despair, committed various acts, against which *.tô·mo-* had been warned by *Pū·luga-*, and while so doing incited others to follow her example by the following words:—

ē,ē,ē, dī·a râ-gū·mul lab dâ·la,
ē,ē,ē, ngū·l kâ·ja pīj pū·gatken,
ē,ē,ē, ngūl chō·akan tō·aiken,
ē,ē,ē, ngūl boâ·rato â·kà-kolâ·ken,
ē,ē,ē, ngūl gō·no bō·angken,
ē,ē,ē, ngūl tōng choâ·ra bō·angken,
ē,ē,ē, ngiy â·rlōt pū·laijoken.

The translation of which is:—

"*ē, ē, ē,*[2] (sobbing)—My grown-up handsome son,
Burn the wax,[3]
Grind the seed of the *châ·kan-*,[4]
Destroy the *bâ·rata-*,[5]
Dig up the *gō·no-*,[6]
Dig up the *châ-ti-*,[6]
Destroy everything."

Thereupon *Pū·luga-* was exceeding wroth, and sent the flood which destroyed all living things with the exception of two men and two women.

20. This tradition is preserved in the following lines:—

Kē·ledōat ībâ·ji lâr chô·ra,
Râ-gū·mul abgô·rka en igboâ·di,
Râ-gū·mul lē liga kō·arnga,
Râ-gū·mul abgô·rka.
Toâ·lo â·rbo eō dâ·kan choar·po.

The meaning of which is:—

"Bring the boat to the beach
I will see your fine grown-up son,

[1] *.kó·lwó·t-*, after death, was transformed into a species of tree lizard, which is still named after him, and *.bē·rebi-* became a fish called *.kō·ngo-*, which is armed with a row of poisonous barbs on its back.
[2] Exclamation indicative of grief.
[3] *Vide ante* "Superstitions," paragraph 13.
[4] The *Entada pursætha*.
[5] The *Caryota sobolifera*.
[6] Two varieties of edible roots much relished by them after the rains.

The grown-up son who threw the youths (into the sea),[1]
The fine grown-up son,
My adze is rusty, I will stain my lips with his blood."

21. In this, as in all their songs and chants, a good deal is left to the imagination, but from the explanations which have been given by the aborigines, the following appears to afford some light on the subject:—*.bē·rebi,* being jealous of the renown *.kô·lwô·t-* had won for himself by his numerous accomplishments and great strength, took advantage of meeting him and his mother one day on the water to ask them to let him enter their boat. On their complying with his request, he provided himself with a rusty adze and a hone, and joined them; approaching near to *.kô·lwô·t-*, he put down the adze and hone, remarking on the rusty condition of the former; then taking *.kô·lwô·t-* by the arm he sniffed it from the wrist to the shoulder, as if admiring the development of the muscles; while doing so he muttered the threat of staining his lips with blood, which he shortly after fulfilled in the manner already described.

22. *lach·i*[2] *.lô·ralola,* the chief of the survivors from the Deluge, gave, at his death, the name of *.chàu·ga-tâ·banga-*[3] to their descendants. When, for the second time in their history, their numbers had increased to so great an extent that it became impossible for them to remain together in one spot, an exodus, similar to the first, took place; each party, being furnished with fire and every other essential, started in a different direction, and on settling down adopted a new and distinct dialect. They each received a tribal name, and from them have sprung the various tribes still existing on the islands.

23. The *.chàu·ga-tâ·banga-* are described as fine tall men with large beards, and they are said to have been long-lived,[4] but, in other respects and in their mode of living they did not differ from the present inhabitants. The name seems to have been borne till comparatively recent times, as a few still living are said to remember having seen the last of the so-called *.chàu·ga-tâ·banga-.*

24. After the Flood the *Pandanus* was found to have deteriorated so greatly as to be unfit for its former uses; their canoes were consequently thenceforth made by scooping the trunks of the *Sterculia villosa,* and other trees of a similar description.[5]

25. The story regarding certain *.tô·mola,* who failed to

[1] Literally, *caused them to flee into the sea* (*vide post* paragraph 29)
[2] Signifying "the late," or "deceased."
[3] *i.e.*, the big-bodied.
[4] The Andamanese attribute the present increased rate of mortality to the jungle clearances we have made.
[5] The native names of which are *bá ja-; mañi-, yē re-;* and *kó koa-.*

observe the rules laid down for neophytes, states that, on the day after they broke their fast of *reg-jī·ri-*[1] (kidney fat of pig), they left the encampment without giving notice of their intention to their friends, and the result was that, when they were missed and searched for, it was found they had gone to the shore to fish, and had there met a sad fate; the body of one was discovered adhering to a large boulder, and turned into stone, while the other, likewise in a state of petrifaction, was standing erect beside it.

26. *maï·a .dū·ku-*, who appears to be identical with *.tô·mo-*,[2] is said to have been the first to tattoo himself. One day, while out on a fishing expedition, he shot an arrow; missing its object it struck a hard substance which proved to be a piece of iron, the first ever found. With it *.dū·ku-* made an arrow-head and tattooed himself, after which he sang this ditty:—

> "*Tōng mâ līr pī·renga? tōng yī·tiken! tōng yī·tiken!*
> *tōng mâ līr pī·renga? tōng yī·tiken!*"

the interpretation of which is "What can now strike me? I am tattooed! I am tattooed!" &c. (*Da capo*).

27. It would seem that after the Deluge they had to feel their way again to the necessary arts and manufactures in which *Pū·luga-* had vouchsafed to instruct their first parents:[3] especially is this declared to be the case with the pigments used in painting their bodies, one of which, viz.: *tâ·la-ōg-*,[4] is said to have been accidentally re-discovered by a *.tô·mola* female, named *chän·a .châ·riâ-*, while she was engaged in searching for the much-relished edible root known as *gō·no-*; another woman, *chän·a .tē·liu*, is credited with finding, about the same time, *kòi·ob-chū·lnga-*.[5] Like true daughters of Eve they were not long at a loss in turning their knowledge to some (?) profitable account.

28. Another of their antediluvian ancestors was famous for propagating yams. This was *maï·a .bū·mroâg-*, who, in shooting an arrow, struck the creeper belonging to the favourite variety called *go·no-*; his curiosity being excited he dug up the root, and tasted it: the result being satisfactory, he informed his friends of his discovery, and they all feasted upon it; when they had had sufficient, he scattered the remains in different directions; this

[1] *Vide ante* "Initiatory Ceremonies," paragraph 5.

[2] *.dū·ku* is also credited with having, like Pygmalion, created a woman! The Andamanese Galatea (*chän·a .tōt·kalat-châ·pa-* or *chän·a .baï·an-*) was made out of *châ·pa-* firewood, and in due course became her creator's wife. The legend does not explain how she was endued with life, but relates that at death she became a Paradoxurus.

[3] *Vide ante* "Mythology," paragraph 9.

[4] *Vide* Appendix B, item 58.

[5] *Vide* Appendix B, item 63.

apparent waste so angered his mother that, on pretence of shaving him, she split his head open with a flint. After his death it was found that the act for which he suffered had tended to the spread of the plant which is now plentiful.

29. To explain the origin of certain fish, they say that one day before the Deluge, *mai·a .kô·lwô·t-* went to visit an encampment of the *.tô·mola* situated in the Archipelago. While engaged in his song,[1] the women, through inattention to his instructions, marred the effect of the chorus, so, to punish them, he seized his bow, whereupon the whole party in terror fled in all directions ; some escaping into the sea were changed into dugongs, porpoises, sharks, and various other fish which till then had not been seen.[2]

30. Only two geological legends have hitherto been discovered : the one refers to a large block of sandstone lying at *.wòtàem·i-*, and the other relates to two boulders of elephantine proportions, situated within a mile of the same place, which convey the idea that they once formed part of a narrow neck of land which jutted out into the sea, but which has been gradually demolished by storms and by the action of the waves. The belief current regarding the first is that the deep incisions visible on its surface are hieroglyphics inscribed by *.tô·mo-*, the first man, giving a history of the Creation, which event, as already mentioned, is believed by all the tribes of our acquaintance to have occurred at this very spot *.wòtàem·i-*. The art of deciphering the supposed record has, it is said, been lost for many ages, and no attempt is made to assign a specific meaning to any of the marks which form the mythical inscription. Many of the legends regarding their ancestors picture the scene of their exploits at *.wòtàem·i-* ; hence the special interest of the spot to all the tribes of Middle and South Andaman and the Archipelago. In regard to the two boulders, tradition declares that one day, in the years before the Deluge, *mai·a .dū·ku-* and some of his friends, seeing two animals swimming near the shore, shouted to them, whereupon they came out of the water and showed themselves to be two enormous creatures such as had never before been seen or dreamt of by

[1] *Vide post* "Games and Amusements," paragraph 22.

[2] The following is a list of *.tô·mola* who were transformed into animals, birds, or fish :—

.kâ·ra-dū·ku- (whale),
.dū·ku- (iguana),
.ē·lewadi- (small species of crab),
.teghū·l- (dugong),
.kó lwó·t- / *.â·ga-* (tree lizards),
.bai·an- (paradoxurus),
ī·d- (rat),
lū·ratūt- (a variety of kingfisher),
.mū·rud- (pigeon),
.ē·ep- (parrot),
.tē·liu- (jungle fowl),
.bá·tka- (crow),
.chó·kab- (heron),
.bad·gi- (fish eagle),
.chō·aq- (porpoise),
and various other fish.

the *.tô·mola*, who were so terrified that they fled precipitately; *.dū·ku-* with difficulty escaped, but a few of his companions were less fortunate, being captured and devoured by these monsters, who are known by the name of *ū·chu-*. Consternation filled the minds of the scanty population then inhabiting the "world," when their deliverance was unexpectedly and speedily effected by the *ū·chu-*, who, in attempting to ford the shallow water near *.wòtàem·i-*, stuck fast in the deep mud, and, being unable to extricate themselves, met a lingering death.[1]

31. The manner in which the world was illuminated at the beginning is not clearly to be ascertained from their legends, for one story states that the sun and moon were subsequently created at *.tô·mo-'s* request, as he found that, under the then existing circumstances, it was impossible to catch fish by night or to hunt by day; while, in direct disagreement with this, another story tells us that night was a punishment brought upon mankind by certain individuals who angered *Pū·luga-* by killing a caterpillar. The tale informs us that the sun, one day, burned so fiercely as to cause great distress. Two women named *chän·a .lī·mi-* and *chän·a jär·a-ngūd-*, became exceedingly irritable, and while in this unhappy frame of mind they discovered a caterpillar (*gū·rug-*), and a certain plant called *ū·tura-*. By way of venting their spleen, one crushed the hapless grub, and the other destroyed the plant. These wanton acts so displeased *Pū·luga-* that he determined to punish them, and to teach them to appreciate the privilege of daylight, which they had hitherto uninterruptedly enjoyed. He accordingly visited the earth with a long-continued darkness, which caused every one much inconvenience and distress. At last their chief, *mai·a .kô·lwô·t-*, to whom reference has already been made, hit upon a happy expedient of inducing *Pū·luga-* to restore the former state of things by trying to assure him that they were quite unconcerned, and could enjoy themselves in spite of light being withheld from them. To accomplish this, he invented the custom of dancing and singing, the result of which was that *Pū·luga-*, finding that they had frustrated his intention, granted, as a first concession, alternate periods of day and night, and subsequently, moved by the difficulties often occasioned by the latter, created the moon to mitigate their troubles. It is in this way that they account for the fact of the same word being used to denote a *caterpillar* and *night*.

32. With regard to the *al·aba-*, which tree they value greatly, in consequence of the fibre produced from its bark being

[1] The name *ū·chu* has accordingly been given to the two boulders. On first seeing the elephants which have been introduced by Government at Port Blair, the aborigines at once called them *ū·chu*, in allusion to this legend, and it is the name ever since adopted by them in speaking of these animals.

used in the manufacture of their turtle-harpoon lines, nets, &c., it is said that *Pū·luga-* commanded *.tô·mo* never to make use of it as fuel when cooking a turtle, though he might burn it when pigs or other animals were being prepared for food; a warning was also given him that a severe punishment would follow disobedience in this particular, for the males found transgressing would have their throats cut, while the females would be deprived of their breasts; if the offence were committed by day, the carrying out of the sentence rested with *chän·a .bō·do-*, or, if by night, with *mai·a .ō·gar-*. On one occasion, at night, shortly before the Deluge (when the *.tô·mola* appear to have been a very depraved set), they were guilty, among other enormities, of disregarding this injunction, whereupon *mai·a .ō·gar-* descended and inflicted the threatened penalty.

33. The legend regarding the origin of the evil spirits known as *.chôl-* is as follows:—Their ancestor, *mai·a .chôl-*, one day stole a pig which had just been captured by *mai·a .kôl·wô·t-*, and climbed up into a gurjon-tree with his prize. Now *mai·a .kô·lwô·t-* was remarkable for his great strength, and being enraged, determined to revenge himself; he thereupon planted a number of spikes all round the tree in which the thief had taken refuge, and then proceeded to force it into the ground. On finding that, if he remained where he was, he must inevitably be buried alive, *mai·a .chô·l-* sprang off the tree, and thereby met a more terrible fate, for he was impaled on the spikes, and perished miserably. His disembodied spirit did not pass to *.châ·ità·n-* (Hades), but took up its abode on the invisible bridge, where, by *Pū·luga-'s* orders, numbers of his descendants were afterwards sent to join him, in the form of black birds with long tails.

34. Another curious fable is told to account for a drought from which their early ancestors suffered: it relates that once upon a time, in the dry season, a woodpecker discovered a black honeycomb in the hollow of a tree; while regaling himself on this dainty he observed a toad eyeing him wistfully from below, so he invited him to join the feast; the toad gladly accepted, whereupon the woodpecker lowered a creeper, giving instructions to his guest to fasten his bucket (*dâ·kar-*[1]) thereto, and then to seat himself in it, so that he might be drawn up. The toad complied with the directions, and the woodpecker proceeded to haul him up; but just when he had brought him near the comb he mischievously let go the creeper, and his confiding and expectant guest experienced an unpleasant fall. The trick so exasperated him

[1] *Vide* Appendix B, item 13.

that he at once repaired to the streams far and near in the island and drained them, the result of which was that great distress was occasioned to all the birds, as well as to the rest of the animate creation. The success of his revenge so delighted the toad that, to show his satisfaction, and to add to the annoyance of his enemies, he thoughtlessly began to dance, whereupon all the water flowed from him, and the drought soon terminated.[1]

Explanation of Plates VIII and IX.

PLATE VIII.

Fig. 1.—Male and female adults, showing profiles, together with the mode of wearing the bone, wooden, and other necklaces, &c., and the character of the ordinary tattooing marks on trunk and limbs.

Fig. 2.—The late Chief of Rutland Island (*mai·a*, alias "*mūnshī*," *.bī·ela*), who died in April, 1877. To the very last he proved most useful to us in recapturing runaway convicts, and in exerting his influence on our behalf with his countrymen, whenever called upon to do so.

PLATE IX.

Fig. 1.—Five youths equipped for a journey: commencing at the left; No. 1 is carrying a bucket (*dâ·kar-*), holding a pig-arrow (*ē·la lâ·kà lū·pa-*) and wearing a garter (*tâ-chô·nga-*), *Dentalium octogonum* waistbelt (*gar·en-pē·ta-*), and *Pandanus* leaf head-dress or chaplet (*ij·i-gō·nga-*). Near his feet is lying a bundle consisting of food, wrapped in large leaves; near No. 5, who is holding a pig-spear (*ēr-dū·tnga-*), and carrying a nautilus-shell cup (ornamentally painted) in his hand, and a bundle on his back, is a cooking pot (*būj-*) in its wicker-work cover (*râ·mata-*). A sleeping mat (*pār·epa-*) is suspended behind the two central figures who, with No. 2, are holding bows (*kâ·rama-*) and pig-arrows (*ē·la-*). No. 1 is a member of the *.ôko-jū·wai-* tribe, Nos. 2, 3, and 4 belong to the *.â·kà-.bōjig-yâ·b-*, and No. 5 to the *.bal·awa-* tribe. (*Vide* Plate VI).

Fig. 2.—The same five individuals in front of a *chàng-tô·rnga-* (hut). The recumbent figure shows the ordinary posture

[1] "The story of a flood or deluge is, it may almost be said, universal in savage mythology . . . . The Australians make a big frog the cause of the Deluge; he contained all the waters in the world, an eel made him laugh; thus the flood gushed out and drowned the majority of living things" (*vide* "Biblical Traditions and Savage Myths," reviewed in "St. James's Gazette," July, 1881).

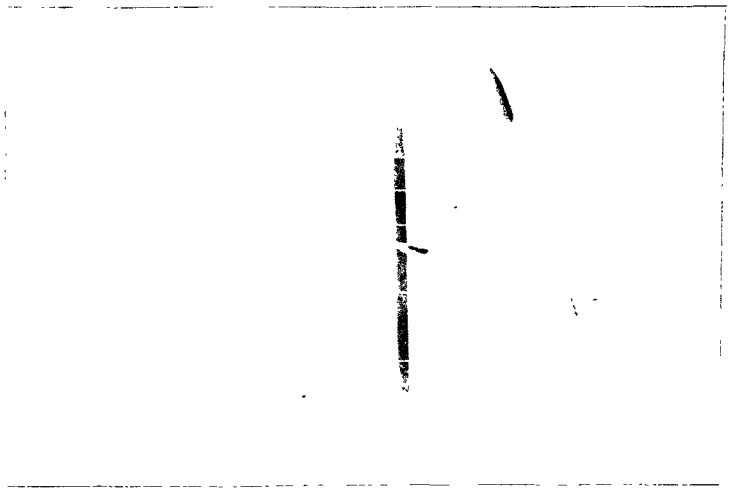


FIG. 1.—ANDAMANESE EQUIPPED FOR JOURNEY.



FIG. 2.—ANDAMANESE SHOOTING, DANCING, SLEEPING, AND GREETING.

in sleep. Those above him are shooting and dancing respectively, and the two on the right who are in mourning attire, represent the attitude of relatives on meeting and weeping together after a more or less lengthened separation. The first three mentioned are ornamentally painted. Just above the heads of the two figures on the right is the small grating called *châ·pa lī tá·ga-* (or *yát leb tá·ga-*), on which spare food is preserved above the fire. The various implements and utensils in ordinary use are also shown, *e.g.*, bows, arrows, pig-spear, bucket, basket cooking-pot, hand-net, sleeping-mat, &c.

MARCH 21ST, 1882.

Major-General PITT-RIVERS, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors :—

FOR THE LIBRARY.

From W. WHITAKER, Esq., B.A., F.G.S.—A Handbook to the Courts of Natural History at the Crystal Palace. By Dr. R. G. Latham and Prof. Edward Forbes.

From the AUTHOR.—Social History of the Races of Mankind. By A. Featherman.

—— Permanence and Evolution. By S. E. B. Bouverie-Pusey.

—— Die Arier. By Dr. Theodor Poesche.

From the MAGYAR TUDOMÁNYOS AKADEMIA.—Gazette de Hongrie. Nos. 34–82.

From the ACADEMY.—Atti della R. Accademia dei Lincei. Vol. VI, Fas. 7.

From the SOCIETY.—Bulletin de la Société Impériale des Naturalistes de Moscou, 1881. No. 2.

—— Journal of the Society of Arts. Nos. 1529, 1530.

—— Proceedings of the Royal Society. No. 218.

—— Transactions of the Asiatic Society of Japan. Vol. XI, Part 3.

From the EDITOR.—"Nature." Nos. 645, 646.

—— Revue Scientifique. Tom. XXIX, Nos. 10, 11.

—— Bulletino di Paletnologia Italiana. Vols. I–IV.

The following new members were announced :—

FRANCIS ARCHER, Esq., WILLIAM A. L. FOX-PITT, Esq., and W. E. MAXWELL, Esq.

Mr. WORTHINGTON G. SMITH exhibited a measured transverse section through 300 feet of the Palæolithic Floor of the Hackney Brook near Stoke Newington Common. He also showed a collection of ovato-acuminate implements, scrapers, flakes, and nuclei from the same spot.

The PRESIDENT read a "Note on the Distribution and Varieties of a Padlock," illustrating his remarks by an extensive collection of ancient and modern locks.

Mr. F. G. HILTON PRICE exhibited some ancient Roman Locks, and explained their construction in further illustration of the President's remarks.

Mr. J. E. PRICE and the Rev. H. WINWOOD also made some observations bearing on the subject of the President's communication.

The following paper was then read by the author :—

On the RELATION *of* STONE CIRCLES *to* OUTLYING STONES, *or* TUMULI, *or* NEIGHBOURING HILLS, *with some Inferences therefrom.* By A. L. LEWIS, F.C.A., M.A.I.

DURING the last fifteen years I have paid much attention to rude stone monuments, and have visited and measured nearly all that exist within 200 miles of London, and some at greater distances. I have from time to time made remarks upon these structures before various learned societies, in the course of which I have been led to dwell particularly upon the references to various points of the compass which I have found in the circles I have examined, and I have thought that it might now be well to put together the whole of the details observed in a tabular form, even at the risk of appearing to repeat myself unnecessarily, so that all the facts and views mentioned in different papers read by me at different times and places, may, so far as they relate to the particular questions I am about to deal with, be brought together in a convenient form for consideration.

The table includes 18 circles, none of which have any reference to the north, 15 may have reference to the north-east, 3 to the east, 7 to the south-east, 4 to the south, 6 to the south-

west, 2 to the west, and 4 to the north-west. That is to say, 15 pointed, more or less exactly, to the sun's rising point at the longest day, 7 to rising point on the shortest day, 6 to his setting point on the shortest day, 4 to the noon point, and but few, and those doubtfully, to any other point. Whether, therefore, we give all points the benefit of every doubtful case, or whether we strike out all the doubtful cases, it seems clear that the builders of the circles had the north-east much more in their minds than any other point of the compass. With regard to the three circles in which I did not find a north-easterly reference, I may say there was not one in which it was not very likely to have been present in the first instance, but subsequently destroyed; on the other hand, I may have missed some neighbouring hills, at other points than the north-east, because my attention was not attracted to them when I first began to investigate these matters. I should say further that, though I have named only the eight principal points of the compass, the objects classed under each are not precisely in that, or in the same direction, but are nearer to it than to any other of the principal points. I shall, however, be able to show you other instances of similar differences, and I may say, once for all, that I have no great belief in extreme astronomical or other accuracy in connection with rude stone monuments.

My attention was first drawn to the connection of the circles with the north-east, by the well-known instance of Stonehenge, which has been authenticated by an innumerable cloud of witnesses; but I am not aware that any other writer has applied the principle to any considerable number of circles, if at all, or has investigated the matter of reference to other points of the compass; I feel justified, however, in now asking you to accept it as a settled fact, and as the first point to be borne in mind, thatthere is in the circles, south of the Humber at least, a much greater reference to the north-east than to any other point.

I will now mention some other ancient structures, which present a special reference to the north-east. The Rev. W. C. Lukis tells us that the lines of Carnac, in Brittany, run north-easterly from a circle, while those of Erdevan run north-westerly, but from their west end a single line runs north-north-east to a distance of 617 feet. The area of the north-east socket stone of the Great Pyramid is equal, roughly, to the sum of the areas of the other three, the next in size is the south-west socket, then the north-west, and last the south-east. Maurice, in his "Indian Antiquities," tells us that the gates of the temples of Mithra were placed at the north-east, and Dr.

Priestley says all the heathens contrived their temples so that they should pray with their faces towards the east.

The late Dr. Inman considered the monument of Hagiar Kim, at Malta, to be a Phœnician temple, on evidence quite different from that which I am now submitting to you; but it is a curious coincidence that the chamber selected by him as the holy of holies, has a most remarkable connection with the north-east (the full particulars of this may be found in "Anthropologia," p. 18, *et seq.*). Herodotus (Euterpe, cxxi) says of two statues in the temple of Vulcan, at Memphis: "One of these looks to the northward, and is adored by the Egyptians under the name of summer; the other, facing to the south, is altogether neglected, and goes by the name of winter." Mr. Mortimer has also found a dwelling on the Yorkshire Wolds with a grave outside it towards the rising sun, the whole being covered by a tumulus.* Here we have a number of examples from miscellaneous and independent sources, showing that there were in certain ancient structures special references to the north, north-east, east, and south, and that those references were designed in connection with different periods of the year, and with sun-worship.

I will now mention some similar cases which have been handed down to our own times, and give some instances of the use of circles for worship or sacrifice. A correspondent of the "Daily News," describing, in 1872 (D.N. 7th January, 1873), the temples of the state religion of China, which, as he says, is not Buddhism, but a compound of phallic, sun, and nature worship, tells us that at the south of Pekin there is a temple of heaven, where sacrifices are offered at the winter solstice; that at the north of Pekin there is an altar of the earth, where sacrifices are offered at some other period; that at the east of Pekin there is an altar of the sun, where sacrifices are offered at the vernal equinox; and that at the west of Pekin there is an altar of the moon, where sacrifices are offered at the autumnal equinox. Mr. Thoms, in his work on "Ancient Chinese Vases," says: "The ancients, it is said, frequently offered sacrifice. When they made their offerings to heaven it was on a round eminence, when to the earth it was on a square eminence, remote from the capital. When offerings were presented to the sun it was observed in the royal palace, when to the moon it was in the Ya-Ming (splendid night) apartments of the palace, and to the stars in the Yew-Yang apartments, so that each had a temple or apartment set apart for the offerings where their aid was solicited. The offerings accorded with the particular season of

* See his paper ("Journ. Anthrop. Inst.," vol. xi, p. 472: 'On Ancient Dwellings in the Yorkshire Wolds.'

the year." It is worthy of note that the altar of the sun at Pekin is to the east, and that the winter altar is to the south, and that the Egyptian winter statue mentioned by Herodotus, as quoted just now, also faced to the south. In our own country there are dolmens and "coves" which were never, in my opinion, covered with earth or used for sepulchral purposes: these generally face between south and east, and may well have served as winter altars; such "coves" are noted in my table as existing in the great temples at Avebury and Stanton Drew, and possibly at the Roll Rich, and if devoted, as I infer, to winter worship, while the other parts of the groups of stones were devoted to summer worship, each of these groups would have had a completeness which as yet has hardly been suspected, but which confirms the probability of their having been constructed for places of sacrifice. In Chaldea, the different quarters of the heaven appear to have been assigned to different gods: to Anu as the sun, Hea as the earth, Bel, Nebo the eastern sun in the height of heaven, Nut and others (Prof. Sayce in "Proc. Soc. Bibl. Arch."), and sun-worship undoubtedly formed a large part of the basis both of Chaldean and Egyptian religion. Colonel Forbes Leslie tells us that in Western India, on the table-land above the ghauts, a Hindoo fane, in which a cock had recently been sacrificed to Betal, consisted of twenty-three small stones, placed in a circular form at equal distances; one to the east was moved 12 feet back, three smaller stones were outside, and to the south-west a single stone, but no opening. Mr. Walhouse also mentions a circle on the Nilgiri Hills, with a smaller circle to the east of it ("Journ. Anthrop. Inst.," vol. vii, p. 43). Here again, in India, which, though so distant, is connected with us in so many ways, ancient as well as modern, we find stone circles used for sacrifice, and having a reference to the east, in which quarter the summer sun rises there, and not, as with us, in the north-east; nor are these the only notices of circular and open temples. Colonel Meadows Taylor has told us that large rocks with circles round them are used as places of sacrifice by Indian shepherds. Maurice ("Indian Antiquities," p. 158), says all ancient temples of the sun and Vesta, or elementary fire, were circular, the adytum in which the sacred fire blazed was constantly of an egg shape. The Arabs, near the first cataract of the Nile, worship, according to a writer in the "Academy" (18th November, 1876), in circles of stones 4 or 5 feet high, on the tops of hills; these are put together with or without mortar, and generally contain fragments of broken drinking jars, and a shallow earthenware pan in which incense has been burnt. Pausanias also refers to circles of great stones in which

the mysterious rites of Demeter were performed. Inigo Jones, writing of Stonehenge, says: "The Thracians used to build temples dedicated to Sol of a round form, open in the middle, and also without a roof. By the form or roundness thereof they signified the sun's figure; by making them open and roofless they expressed his surmounting and dilating light equally to all things." Mr. John Hogg, M.A., F.R.S., quotes various authorities to show that obelisks signify the rays of the sun, and this would be equally applicable to any other upright stones, and a circle of such would therefore represent the sun surrounded by rays.

The Prophet Ezekiel saw "at the door of the temple of the Lord, between the porch and the altar, about five and twenty men with their backs toward the temple of the Lord, and their faces toward the east; and they worshipped the sun toward the east" (viii, 16).

I must now remind you of a few instances in which observances, particularly by fire, of midsummer and other ancient festivals have descended to our own day and in our own country, as well as elsewhere. At Logierait, in Perthshire, burning faggots were carried in procession, and at Penzance, in Cornwall, fires were lit on 23rd and 28th June, and people ran about with torches, two holding up their hands, while others passed underneath. Baal fires were lit in Aberdeenshire at Halloween (old style), and at Beltane as lately as 1864 and 1865, and at Balmoral up to last October, while as long ago as the eleventh century, Cnut thought it necessary to forbid the worship of fire. The Sardinians go, on St. John's or Midsummer Eve, to church in procession, feast on eggs and herbs, light fires and join hands over them; in Brittany religious processions have taken place at or near midsummer, in which an image of the sun was carried by the priests. St. John's or Midsummer Day is also a great day with the Freemasons.

I think I have now shown—

1. That our stone circles have special references to various points of the compass, and notably to the north-east.
2. That other structures, both ancient and modern, had similar references, which we know arose in connection with times, and seasons, and various forms of nature worship and that the "eastern position" was particularly used in sun worship in countries where the sun rises in the east, at the time that it rises here in the north-east.
3. That practices connected with nature worship, and

especially with fire and sun-worship, have come down to our own times and in our own country.

4. That circular buildings and open circles have been and are used for worship of this kind.

There is also evidence, too bulky and too well known for me to reproduce here, that many practices and superstitions, some of them connected with sacrificial circles and stones in India, are common to England, to India, and to countries between them (*see* Colonel Forbes Leslie's "Early Races of Scotland"), and I submit that it is a fair deduction from these facts that our own circles were used for solar worship.

This deduction having been duly noted, I will ask you to consider another class of temples which have a special reference to the east and north-east, and which I have purposely avoided mentioning until now: I mean our own churches. It is well known that English churches stand, as a rule, east and west, the altar being at the east end, or, where the church cannot be built east and west, it is placed north and south, the altar being at the north end; the foundation stones of churches used always to be laid at the north-east angle ("Discrepancies of Freemasonry"); and when the Prince of Wales laid the foundations of Truro Cathedral in strict masonic fashion, there were two stones laid, one of which was a north-east stone. Here we have most singular and unmistakable references to the east and north, and above all appearing, as it were, like a palimpsest through and between these to the north-east; this extends also, though with a slight local difference, to the ancient Irish churches, which were invariably placed east and west, and always had an east window and a west door; the difference is that in Ireland there were no windows to the north, and that few burials were made on that side, and those mostly of still-born children, &c., which may be collated with the absence of any reference to the north in the stone circles.

Now whence do we derive this peculiar regard in our churches for the east, the north, and the north-east? We expect, as a matter of course, to find that any religious observances of this kind come from Rome, but this at least does not. The Roman and Italian churches and altars stand, as I am informed, in all sorts of positions, and any Londoner may see for himself, as regards the Romish churches in Hatton Garden, Duncan Terrace, the crypt in Ely Place, and Moorfields, that, although the buildings stand about east and west, the high altars are all at the west and not at the east; the English did not therefore borrow the position of their altars from the Romans.

There is yet another point in common between the British

circles and the British and Gaulish churches. I have mentioned that although the circles have a special reference to some point between the north and east, that point is not always the same point, and this again is the case with the churches. M. Savy, in a note on the "Orientation of Churches," read before the Congrès Archéologique de France, 1855 (p. 276), remarks that, although ecclesiastical rules provide that the long axis of churches should run due east and west, the apse being at the east, and that the plans should be laid before the Bishop of the diocese before building, these rules do not seem to have been followed in churches which he had examined, and he names eight cathedrals and churches in Rheims, Chalons, and Lepine, the axis of which is diverted to the north of east to the extent of from $12\frac{1}{4}$ to $34\frac{3}{4}$ degrees (the average being $21\frac{2}{4}$); he points out that none of these incline to the south of east, but is unable to offer any explanation, unless it may be the formation of the ground, which might explain one case, but could hardly explain eight. In February, 1879, the Royal Institution of British Architects discussed the deflection of the axis and choir of old St. Paul's to the north of east, as shown by some remains then recently discovered. The President, Sir C. Barry, thought it might typify the leaning of the Saviour's head on his shoulder; the Rev. Mr. Webb doubted whether it were not accidental; Mr. Penrose (architect to St. Paul's) said there was a deflection to the south of east at Wisbeach Church, and he thought the deflections were made to improve the prospect in the churches. Here then we have it as a fact beyond dispute that the choirs of English and French churches, instead of always standing truly east and west, frequently stand in north-east and south-west direction, and we find that the best architects can give no satisfactory explanation of this arrangement. I explain it by the supposition that it is derived from the stone circles, and that the circles had this special reference to a quarter between north and east because they were devoted to solar worship.

There are many facts which this theory fits better than any other, and there are some theories which do not readily explain the facts I have brought out; I think it will be admitted that the coincidence I have shown between British and Gaulish rude stone monuments and churches is too close to be accidental; either the churches got their north-east reference from the circles, or the circles got it from the churches, or both got it from the same source. Now we have had a theory started which makes the circles to be of later date than the introduction of Christianity, and to be burial places for men slain in battle; but this theory does not account for the outlying stones; indeed, its learned author confesses that they are a mystery to him, and

why indeed should a mere memorial to men slain in battle adopt this peculiar ecclesiastical notion, and that in such a way as not to be recognisable without a certain amount of research? I consider, therefore, that on this ground alone the circles may be held to be earlier than the churches, and I may add that the articles found in and about rude stone monuments as a whole show them to be prior to the introduction of Christianity. The circles were, however, undoubtedly used occasionally, though not always, for burial, and, says Mr. Fergusson, "except the Jews, who seem to have buried their kings close to" (not inside) "their temples, I do not know of any people in ancient or modern times who did so, and we certainly have no hint that the ancient Britons were an exception to this universal rule." Whence, then, did Christians derive this practice? I believe they derived it from the Britons, and from their practice of burying in and about their temples, and that this gives us yet another link between the circles and the churches. In Scotland, indeed, circles are still called kirks, and churches "clachan," or stones.

In the churchyard at Rudston, in Yorkshire, is a menhir 25 feet high, which stands 13 feet from the buttress at the north-east corner of the church. Here we have a stone in close connection with a church, and the north-east reference between them maintained. This fact is stated by the incumbent of the parish, the Rev. P. Royston, who says in explanation: "It was the custom with the heathen to lay the foundation stone of any or rather every temple at the north-east corner; their reason for doing so was that the Egyptian astronomers taught that at the creation of the world the sun rose in Leo, and admitting this notion was got up when the constellation was situated in the north-east, at the rising of the sun, this circumstance will naturally, in accordance with the Egyptian mode of worship, induce the custom of commencing magnificent edifices at the north-east corner in imitation of that glorious luminary supposed by the Egyptians to be the supreme architect of the world."

Many years ago, it was generally thought that our circles were Druidic temples; this conclusion was no doubt arrived at without any direct evidence being obtained, or perhaps obtainable in its behalf, and by a natural reaction, any one holding that theory has, of late years, been thought little better than a lunatic. Yet how stands the best evidence that can be got? There is every reason to believe that the circles were erected in the Druidic period, and that they present features only explicable on the supposition of their being devoted to solar worship. It is quite certain that the Druids were sun-worshippers, and

that they had the power and the will to suppress every worship but their own: is it then so absurd to attribute the circles to the Druids? I think not.

I now want to show, in conclusion, how I think the connection between the Druidic and Christian temples arose.

It is a matter of history that western Christianity took its first firm root in Gaul and Britain, just the countries where Druidism reigned supreme, and that it only succeeded in doing so by accepting a host of practices and superstitions of which this north and east reference of its places of worship was probably one; it is known to have been a recognised policy of the early missionaries in these countries to accept as much as could not be easily suppressed of the local worship and superstitions, and to give them what was called a Christian signification. Dr. Priestley ("Corruptions of Christianity") says: "All the heathens contrived their temples so that they should pray with their faces towards the east; this was introduced into Christian worship about the time of Jerome, though it was not then generally approved of. Pope Leo the Great condemned this custom because it was much used by the Manichæans," and again Pope Vigilius ordered, about 536, that those who celebrated mass should always direct their faces to the east. Christmas, he says, was observed in the fourth century, Easter and Whitsuntide earlier, the festivals of the Apostles, &c., not till the time of Constantine or later. Dr. Priestley says also: "With respect to the spiritual power in general the Popes derived much advantage from the ideas of the northern nations in their state of paganism; for they considered the Bishop of Rome in the same light in which they had before done their Archdruid, and transferred to him that boundless reverence with which they had been used to regard the other; hence the force of the papal excommunication which, as under the Druids, deprived a person of the common rights of humanity." This system of adopting, under a so-called Christian aspect, pagan sites, rites, and ceremonies was approved by contemporary Popes, and was afterwards extensively followed in the new world. I have also an apparent instance of it from the East. The highest peak of Mount Eubæa was the site of a chapel dedicated to the prophet Elias, which occupies the area of a megalithic temple fortress supposed to have been sacred to Helios the sun-god ("Builder," 15th December, 1877); the transition from Helios to Elias is very simple, and we have here also a megalithic temple associated with sun-worship.

It was afterwards discovered that this system of comprehensive toleration, or rather assimilation, had its disadvantages, and we find that the Councils of Arles 452, Tours 567, Nantes, and also the Archbishop of Bourges in 584, Childebert in 554, Carloman

in 742, and Charlemagne condemned superstitions regarding stones, fountains, trees, &c., and enjoined their destruction (Abbe Voisin, Materiaux, &c., 1875, p. 86); this also places the stones just in the pagan period immediately preceding the introduction of Christianity.

As a writer in "Good Words" (Rev. H. Wace, October, 1878) well puts it, "Christ at the beginning of the fourth century was, to the world at large, simply the object of the worship of a persecuted sect; at the end of the century He is recognised publicly by the highest authority of the empire as the Divine Lord of all." This recognition is well exemplified by penance submitted to by the Emperor Theodosius, in 390, at the instance of St. Ambrose, Bishop of Milan. This great difference in the status of Christianity at the beginning and end of the fourth century is indeed a well-known and unquestioned fact, but how is it to be accounted for?

Constantine the Great was proclaimed Emperor in Britain at York in 306, and immediately checked the persecution of the Christians; he depended for support very largely on his British and Gaulish forces, who had become impregnated with the mixture of Druidism and Christianity to which I have referred, and, as his power became consolidated, he not only tolerated this new faith, but made it the State religion.

Mr. John Hogg, M.A., F.R.S., says the sun "was the 'invincible guide and protector' of the Emperor Constantine before the year of our Lord 331, when he commanded the heathen temples to be closed; and Gibbon tells us that the devotion of Constantine was more particularly directed to the genius of the sun, the Apollo of Greek and Roman mythology, and he was pleased to be represented with the 'symbols of the god of light and poetry.' Indeed, ten years before (321), Constantine ordered the strict observance of Sunday, calling it then after his patron god, *Solis dies*, and he moreover placed upon his coins the legend '*sol invictus.*'"

Constantine probably acted as much from inclination as from policy in these matters, for, says Mr. Wace, "Constantine, according to Eusebius, proposed to unite under one form the opinion which all nations held of the Deity; Plotinus, the great master of the Neo-platonic philosophy, Porphyry, and Iamblichus, worked out an elaborate scheme which strove to embrace ancient forms of worship and of thought, but which culminated in the idea that in moments of ecstasy, and ecstacy to be produced by virtues similar to those of Christian enthusiasm, a vision of God might be attained."

While, however, this great Emperor was planning a scheme of universal religion, the details seem to have been left, as before,

to accommodate themselves somewhat to local customs and superstitions; the British system of orientation of churches prevailed in the Druidic countries of Gaul and Britain, but was not enforced in non-Druidic Rome. The Greek cross and the monogram Chr, of which it forms part, and which Constantine stamped on his coins, gave way to the distinctly pagan Roman cross as the power of Rome increased, yet in Gaul, and Britain more particularly, we find the right-angled Latin cross not unfrequently modified on vestments into a "Y" cross  , which appears to me to be another form of the mysterious government mark known as the "broad arrow,"  , both being probably derived from the Druids, who, according to Mr. Morgan, had a cross of three Divine letters or rays symbolizing the triple aspect of God, which was wrought in gold down the length of the back of the vestments of the Archdruid, and which would certainly have formed a very convenient and significant mark for sacred or royal property. Dr. Evans, indeed, says that although the "broad arrow" is a very ancient symbol, it has not been traced as a government mark earlier than the reign of Henry VII., but it must not be forgotten that that was the precise period of revival of a great number of Welsh and early British notions.

Returning, by way of conclusion, to Constantine, Dr. Priestley goes so far as to say that in his reign there was more learning in Britain than elsewhere; be that as it may, the aim of Augustine and his mediæval followers was so entirely to exalt Rome at the expense of all other nations that very insufficient weight has generally been attached to the influence which British views and forces exercised in the later Roman Empire.

LIST OF CIRCLES measured in Southern Britain, showing the nature and direction of any apparent references in them to external objects or points of the Compass.

Name	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Avebury ... ... (from particulars given by Sir H. C. Hoare, confirmed as far as is now possible by my own observations)	...	"Cove" in northern inner circle faced to N.E.	...	Avenue ran S.E. from great circle "Cove" in S.W. avenue faced S.E. The smaller circles *stood somewhat* S.E. and N.W. from each other, with single stone at S.E. end of line through their centres.	Silbury Hill about S. from great circle.	Avenue ran S.W. from great circle.	...	Doubtful { The smaller circles stood somewhat N.W. and S.E. from each other.
Arbeloues Ring ..	.	"Cove" in centre faced apparently to N.E.	...	Entrance and stone against it.	...	Tumulus and bank leading to it.	...	Entrance.
Stonehenge ... ... (from Mr Flinders Petrie's measurements, as well as my own.)	...	"Friar's Heel," avenue, and stone on ditch in line of avenue to N.E.	Doubtful. { Large tumulus about 300 feet outside ditch (qy. any connection with circle).	Stone on line of ditch and tumulus further south in line of ditch (these are in line with *centre of circle* and similar objects to N.W.).	...	...	...	Tumulus on line of ditch and stone further S. rather within ditch (these are in line with *centre of circle* and similar objects to S.E.).
Rollright . . .	.	"King stone" to N.E.	Doubtful. { "Five Knights" (qy any connection with circle).	Doubtful. { "Five Knights" are somewhat S. of E. from circle, but may have no connection with it.	...	Doubtful. { "Five Knights" face south-westerly (but qy. any connection with circle).	...	...

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Avebury ... . (from particulars given by Sir H. C. Hoare, confirmed as far as is now possible by my own observations)	...	"Cove" in northern inner circle faced to N.E.	...	Avenue ran S.E. from great circle "Cove" in S.W. avenue faced S.E. The smaller circles stood somewhat S.E. and N.W. from each other, with single stone at S.E. end of line through their centres.	Silbury Hill about S. from great circle.	Avenue ran S.W. from great circle.	...	Doubtful. The smaller circles stood somewhat N.W. and S.E. from each other.
Arbor Low's Ring .	..	"Cove" in centre faced apparently to N.E.	...	Entrance and stone against it.	...	Tumulus and bank leading to it.	...	Entrance.
Stonehenge ... .. (from Mr Flinders Petrie's measurements, as well as my own.)	...	"Friar's Heel," *avenue, and stone* on ditch in line of avenue to N.E.	Doubtful. Large tumulus *about 300 feet* outside ditch (qy. any connection with circle).	Stone on line of *ditch and tumulus* further south in line of ditch (these *are in line* with centre of circle and similar objects to N.W.).	...	...	...	Tumulus on line of ditch and stone further S. rather within ditch (these are in line with centre of circle and similar objects to S.E.).
Roll-Rich . .	..	"King stone" to N.E.	Doubtful. "Five Knights" (qy. any connection with circle).	Doubtful. "Five Knights" are somewhat S. of E. from circle, but may have no connection with it.	...	Doubtful. "Five Knights" face south-westerly (but qy. any connection with circle).	...	...

LIST OF CIRCLES, &c.—*continued.*

Name.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Stanton Drew (from Mr. C. W. Dymond's measurements, as well as my own).	...	Line through centres of S.W. and great circles to "Haateville's Quoit." N.E. circle to N.E. of great circle and "Cove."	...	"Cove" faces S.E.	...	"Cove" at S.W. end of line running through centres of great and N.E. circles, S.W. circle S.W. from great circle.	Doubtful. Two stones in "Lower Tyning" nearly W. from N.E. circle (but qy. any connection).	Doubtful. Two stones in "Lower Tyning" nearly N.W. from S.W. circle (qy. any connection). 'Cove' also somewhat N.W. from S.W. circle.
Hurlers (Cornwall) ..	...	The three circles are in a somewhat north-easterly line one from the other.	...	...	...	Two upright stones S.W. from central circle.	Doubtful. Two upright stones about W. from S.W. circle.	...
Dance Maen (Cornwall)	...	Small stone to N.E., also the "*Pipers*" (if connected with circle).	...	Doubtful. Two stones between S. and S.E.	Doubtful. Two stones between S. and S.E.	...	...	...
Nine Maidens (Botallack, Cornwall) ...	...	Doubtful. Possibly Carn Kenidjack or some point of it.	...	...	...	...	...	...
Nine Maidens (Boscawen un, Cornwall)	...	Doubtful. Central stone leans to N.E.	...	...	...	...	...	...
Gidleigh (Devon) .	...	A small stone to N.E.	...	...	...	...	...	...
Mount Murray (Isle of Man)	...	Doubtful. Avenue winds round N.E. side.	...	...	...	...	...	...

LIST OF CIRCLES, &c.—*continued.*

Name.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Penmaenmawr ...	...	Two stones and three hills to N.E.	...	...	...	...	...	...
Mitchell's-fold (Shropshire)* ...	...	Single stone Stapeley Hill and Hoarstone circle to N.E.	...	Doubtful. Corndon Hill between S. and S.E.	Two stones and "Whetstone" to S.	...	...	...
Hoarstone (Shropshire)	...	Three hills to N.E.	...	...	...	*Central stone* leans to S.W., where are also Stapeley Hill and Mitchell's-fold in line.	...	...
Gorwell (Dorsetshire)*	...	...	...	...	*Two stones* to S.	...	...	...
Nine Stones (Dorset)	...	...	...	...	...	. .	...	...
Cobbystones (Lancashire)	...	...	...	...	...	...	..	...
Wet Withins (Derbyshire)	...	Doubtful. Small lot of stones to N.E., possibly a hut circle.	Doubtful. Small lots of stones to E., possibly a hut circle.	...	...	...	...	...
Totals 18	0	15 { 11 certain. 4 doubtful.	3, all doubtful.	7 { 4 certain. 3 doubtful.	4 { 3 certain. 1 doubtful.	6 { 5 certain. 1 doubtful.	2, both doubtful.	4 { 2 certain. 2 doubtful.

N.B.— The particulars are all founded on my own observations, unless otherwise stated.

*See "Journ. Anthrop. Inst.," November, 1881.

Discussion.

Mr. Park Harrison thought that great uncertainty must always exist regarding the orientation of stone circles. If prominent or outlying menhirs were taken as indicators, one could never feel sure that some may not have been removed. Then, as to the eastern direction of churches: though many heathen customs were Christianised, and new meanings attached to them, there did not appear to be any evidence that the orientation of English churches was copied from British sun-temples, and a north-eastern direction is certainly not the rule with them. There was a long interval between the date of the stone circles and the time of Jerome, during which a number of different cultes had been introduced by the Romans, and adopted by the Romanised Britons; and when Christianity was introduced, the existing temples, many of them unconnected with sun-worship, were converted into churches. The eastern direction of English churches, like the earlier British way of calculating Easter, and a peculiar form of the clerical tonsure appear to have been introduced by Eastern missionaries. It was the kirks that were called "stanes" in Scotland, as places of meeting; the terms were not convertible.

Mr. Walhouse observed that, with regard to the orientation of churches, he believed the mediæval custom was not to build them due compass east, but to that point in the east where the sun rose on the day of the Saint to whom the church was dedicated. On the point of the deflection of the chancel from the line of the nave, very observable in some old churches, as at Wellow, in Somersetshire, he believed it was intended to typify the drooping to one side of our Lord's head on the Cross. With reference to outlying stones to the eastward of stone circles, he had seen a striking instance at the remarkable site known as the "Stones of Clava," about 1½ mile from the field of Culloden, a few miles from Inverness. There are three principal large circles, closely contiguous, the great stones arranged at equi-distant intervals, with mathematical accuracy; and at 200 or 300 yards distance to the east, in another field, there is placed a single large upright block, much too far off to have formed any part of the circles, but evidently connected with them.

The Rev. H. Winwood wished to emphasize the question of a former speaker as to the indications of a circle pointing in any particular direction. During a recent visit to the Snowdonia district, he had observed a great many stone circles scattered over the hills, facing in all directions—north, east, south and west, according to the slope of the ground; if there was any particular point to which they faced more particularly, he thought it was the south and south-east, for a direction favourable to the living would be equally so for the dead. With regard to the other three great circles with which he was well acquainted, *i.e.*, Stonehenge, Avebury, and Stanton Drew, he inquired what evidence there was of their direction being north-east. As to Stonehenge, perhaps the

position of the "Friar's Heel" in regard to the so-called "Altar Stone," might possibly favour this view, especially in the mind of those who had watched the midsummer sun rise over the "Heel," but the remaining two he thought could not be cited as an example of any such intentional direction. The revival of the Druid theory was also a point on which he sought enlightenment from the author who had collected his facts with so much industry. As to the connection of circles and churches, and the statement that the Scotch called their circles *kirks*, he had always understood that the word *church* had quite another derivation.

Mr. LEWIS said, in reply, that the nature of the reference to the various points of the compass was shown in detail in the table attached to the paper, and that at Stanton Drew the reference to the north-east, in the relative portions of the circles and outlying stones, was very remarkable. The possible destruction of outlying stones applied as much to one point as to another, so that if a sufficient number of circles were dealt with, it was not necessary to take it into account; and he thought eighteen circles gave a sufficient average, or he would not have troubled the Institute on the subject at all. He had brought evidence to show that the north-eastern direction in churches existed more commonly in England and France than was generally supposed, and the north-east was also particularly recognised by laying the foundation-stone in that direction. The typifying of the drooping of the Saviour's head he looked upon as a very far-fetched Christian gloss, and the placing the chancel window so that the sun should shine through it on the saint's day was clearly a remnant of sun-worship, as indeed was the whole system of placing the church in any particular position, without regard to, or, as frequently happened, in opposition to the nature of the site; why else should not the churches be placed in any direction whatever, as they were in Rome? It would be unlikely in the nature of things that any positive evidence should be found that the orientation of the churches was derived from that of the circles; but the facts he had mentioned appeared to him to fit together, like the pieces of a dissected puzzle, in one way and no other, so that if there were not a mathematical, there was what he might almost call an ocular demonstration of the truth of his views, and there was certainly no direct evidence of the orientation of the churches having been derived from any other source than the one he had suggested. The calling the churches stones and the stones churches, by the Scotch, was not mentioned by him as elucidating the derivation of the word church, but as showing that the two things were at some time or other considered practically the same.

The following paper was read by Mr. J. E. PRICE :—

EXCAVATIONS *of* TUMULI *on the* BRADING DOWNS, ISLE OF WIGHT. By JOHN E. PRICE, F.S.A., *and* F. G. HILTON PRICE, F.S.A., F.G.S.

[WITH PLATE X.]

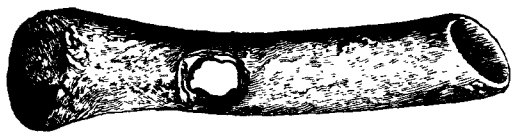
THE excavation of the Roman buildings at Morton, near Brading, in the Isle of Wight, has up to the present time not resulted in any discoveries of a character which could with propriety claim any especial recognition in the proceedings of the Institute; but as our Journal occasionally admits archæological communications (useful often for purposes of comparison), and moreover already contains descriptions of researches among the tumuli and grave-mounds of this country, it may be well to briefly chronicle the results of an examination which we had the opportunity of making last autumn, of some of the well-known barrows on Nunwell and Brading Downs. Our work at the villa being temporarily suspended, owing to the presence of the crops, and other circumstances, we availed ourselves of the kind permission accorded by Lady Oglander to investigate the various tumuli within the limits of her estate, several of which are in close proximity to the villa. The situation of those now excavated is one of the finest in the neighbourhood; it is on the summit of that picturesque range of hills which, extending across the middle of the island, runs more or less in an unbroken line from Culver Cliff to Freshwater Gate; upon the summit is the old road, the highway from Brading by Arreton to Newport, the commercial centre of the island; a limitary hedge marks one side of the ancient way, and near thereto the barrows, or rather such of them as remain, can be readily distinguished. Imperfect examinations have clearly been made from time to time, which, added to the gradual levelling of the soil and the steady operations of nature, have in many cases nearly obliterated the elevated sites, and to the unpractised eye many difficulties might present themselves as to the most desirable spots for excavation; and it is to be regretted that those who in former days explored these barrows have not published an exhaustive report of their investigations, partial in many cases, but sufficient to destroy, for historical purposes, many interesting features.

The largest tumulus, which is nearly circular, is about 60 feet in diameter and 5 feet high at the highest part. In the centre it is only 2 feet 6 inches. The site of this tumulus is marked upon the ordnance map and it is locally known as the "Punch Bowl," or "Devil's Punch Bowl," a designation which, as is well

known, has been often applied to barrows, and originated doubtless in the legends and superstitions which found favour with the country people in former days; the bowl or cup-like form being due either to the pernicious habit of explorers, when excavating tumuli, of excavating a shaft or pit in the very centre of the mound, with the expectation of dropping at once on the anticipated treasure, perhaps finding nothing and abandoning the work, or from the fact of the barrow having been raised over cists containing urns or interments by inhumation, which gradually perishing and giving way, led to a subsidence of the soil in the crown of the tumulus. There is a tradition current among the labourers on the estate that in this hollow portion of the "Bowl" a large stone formerly existed, that it was removed from its position by mischievous people, and sent rolling down the hill, and that, for some time after, it was to be seen near to a ditch or path adjoining Nunwell House. We instituted a careful search with one of the labourers, but was unable to trace the stone. It is possible that it had some association with the tumulus, and perhaps some significance as a limitary mark, or it may have been only placed there in recent times for the support of a staff or pole, the situation of the mound being one which might even be selected for a beacon. Both on the promontory at Bembridge and on that at Freshwater such beacons once existed, and in the midst of ancient sepulchres, around what is known as the sea-mark, a mass of masonry on Ashey Down, and visible miles away at sea, are congregated tumuli, no less than twelve of which were once partially examined by the Isle of Wight Philosophical and Scientific Society, and the results are recorded in vol. x. of the "Journal of the British Archæological Association."

Our examination of the "Punch Bowl" commenced in July last; we began by cutting a trench direct through the diameter of the mound, the width of the trench being about 3 feet. Cutting in this direction we were enabled thoroughly to explore the centre. Near to the junction of the upheaved soil, comprising many tons of chalk, with the surface of the ground, there appeared what may be described as a layer of charcoal, extending (as it would seem from its being again met with in the cross-cuts, subsequently made) throughout the circumference of the barrow. Associated with this layer of charred wood were several fragments of both human and animal bones, and scattered pieces of early British coarse sun-dried pottery. Traces of cremation were present, but the mound having been previously disturbed, nothing perfect or *in situ* was disclosed. We next proceeded with a trench in a southerly direction, extending from the centre to the edge of the tumulus, about 8 feet west of

this; another cutting was made, and here was discovered a skeleton of a child which Professor Flower has been kind enough to examine, and pronounces to be that of an individual about nine years of age. These remains, together with some of the pottery found, are exhibited. The body was in a contracted position; the position of the head pointing to the north-east has no especial significance, it having been clearly shown by barrow-diggers that there was but little rule in this respect. The skeleton was nearly complete, but the bones very fragmentary and decayed; near to it was found a small urn, or cup, of very early, but of coarse and crumbling pottery, and so fragmentary that but little has been saved. Among the relics appeared a primitive and interesting object, viz., the basal portion of the antler of a red deer through which a hole had been drilled transversely to the long axis of the horn. This artificial perforation is quadrilateral in shape, and intended doubtless for the reception of a handle. It measures 6½ inches in length, and the hole, which is 1 inch in diameter, is cut through it at 2 inches from the thickest end (*see* fig.).



Canon Greenwell and Mr. Franks, who have seen it, consider it to be a hammer of British make, and very rare. It is much to be regretted that it was injured by the excavators before they observed what was being thrown out of the trench. There were a considerable number of flint flakes taken out of these trenches, and some small fragments of British pottery, and a few animal bones, mostly splinters.

We should state that our trenches, north, south-east and west, were about 4 feet in width, also the inner circular trench, but the smaller cuttings were slightly less.

In the trench east and west, at a point about 12 feet from the east end, and at 2½ feet from the surface, resting upon a layer of charcoal, a bone pin, tooth of an ox, bits of pottery, and bones were found. Adjoining this spot a small earthenware cup of coarse British pottery, several flint-flakes, pieces of bone, and fragments of pottery were also discovered, but no indications of human bones were met with, notwithstanding great care was taken.

We next turned our attention to making a circular trench

through the highest portion of the mound; measuring from the principal trenches already made, we commenced a trench 3 feet wide, at 12 feet from the east end, 14 feet from the north end, 18 feet from the west end, and 9 feet from the south end. Throughout this excavation, the black line was distinctly visible at a depth of about 2½ to 3 feet from the top. Finding nothing particular in this circular cutting beyond a few flakes and bits of pottery, a few extra sections were cut on the south side with a view of ascertaining whether any secondary interments had been made, this side being quite near to the old road, which probably dates from British times.

The first section, 3 feet wide, was made 13 feet south of the main east and west section on the east face, the second was 15 feet 6 inches from that, and the third was 8 feet west of the north and south section. These trenches were all dug into the inner circle without any results.

Another trench was cut in the inner circle inwards towards the centre, from the point 7 feet 8 inches west of the north and south section, extending for a distance of 6 feet without any results.

At 2½ feet from the surface of the mound there was a uniform layer of earth much mixed with fragments of charcoal.

This mound bears evidence of having been opened from the north side, due north and south towards the centre, when probably the primary interment was removed. The original excavator did not cut it through on the south side.

Finding nothing more, we restored the mound.

A smaller tumulus was next opened; it is situated 45 feet east of the "Devil's Punch Bowl." We made a section east and west 35 feet in length, and a cross section north and south 19 feet 6 inches; the trenches were 6 feet in width through the mound; a large number of flakes were found beneath the turf within a foot of the surface. In the north and south section, on the south side of it, a handful of burnt bones was discovered. After making a deep excavation in the centre, and finding the ground had never been disturbed, we filled it in. The antiquities discovered in these mounds are deposited in the British Museum.

It would seem from these investigations that the burials referred to are of the British period, that is to say, they belong most likely to a time which may have been historical when the Romans began to colonise the land near Brading, and erected that extensive range of buildings which have been recently disclosed; for there are no indications of the tumulus having enclosed any relics of the Roman period, indeed, it is singular that as yet no sepulchral memorials of this time have yet been met with in the vicinity of our work. We have yet to

discover the graves of some of the inmates of this vast establishment, which, from many indications found, was evidently occupied for generations. As a rule, the barrows in the Isle of Wight chiefly mark a transitional period, or rather the association between Romans and Saxons; for example, those upon Brook Down, Afton Down, Shalcombe and Chessell Downs, on Brightstone, also at Bowcombe Downs; and this especially applies to those which have been examined along the range of hills from Newport or Carisbrooke to Freshwater, a distance, say, of 12 miles. It would seem that the burial-places of the earlier races, of the Belgic tribes who as we know occupied the Isle of Wight, are more plentiful in the district we are now investigating, and this may be expected to be the case if we may view, as we now probably may, the old town of Brading and its immediate vicinity as marking the situation of the first occupation of Vectis by the Romans.

Explanation of Plate X.

Plan and section of the tumulus known as the "Devil's Punch Bowl," on Brading Down, in the Isle of Wight.

Mr. F. G. Hilton Price made some remarks in illustration of the paper, and the discussion was sustained by the Rev. H. Winwood and the President.

April 4th, 1882.

Major-General Pitt Rivers, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

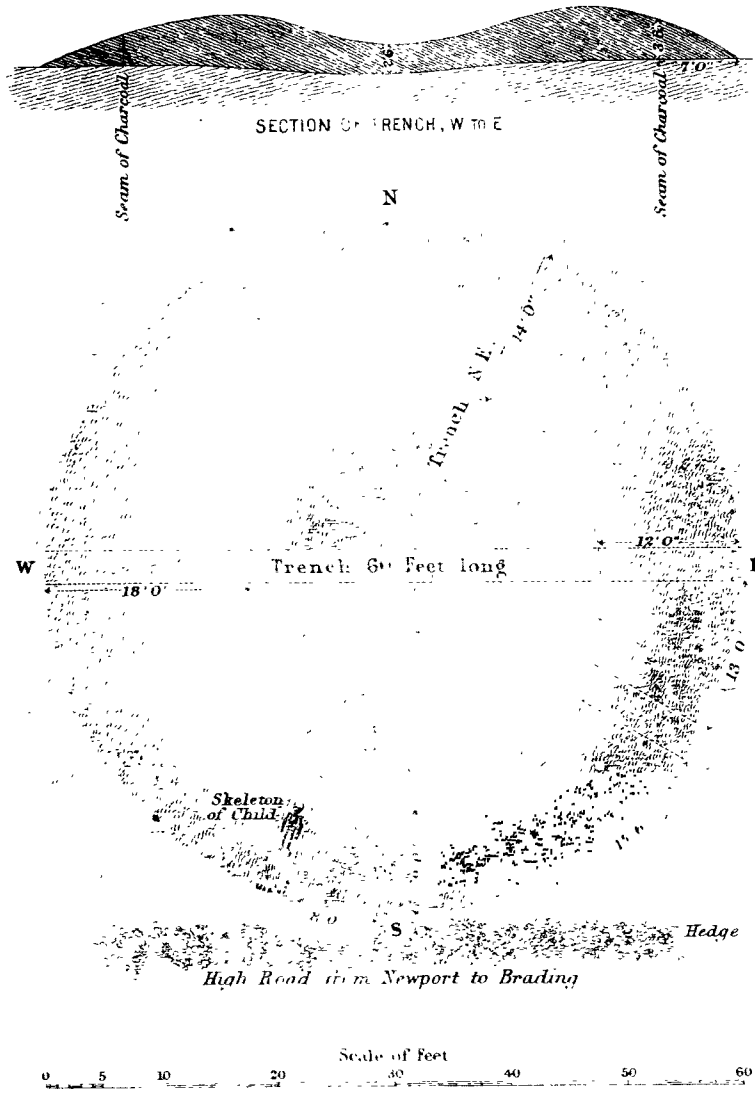
For the Library.

From the Authors.—Ueber einige Fossilien aus der Uitenhage-Formation in Süd Afrika. By Dr. E. Holub and M. Neumayr.

From the Author.—Report of the Third International Geographical Congress. Venice, September, 1881. By Lieut. G. Kreitner.

From the Smithsonian Institution.—Studies in Central American Picture-writing. By Edward S. Holden.

From the Academy.—Atti della R. Accademia dei Lincei. Vol. VI, Fas. 8.



"THE DEVIL'S PUNCH BOWL"
BRADING DOWN, ISLE OF WIGHT

J.P.E. & W.P. Emslie, London

From the ASSOCIATION.—Journal of the Royal Historical and Archæological Association of Ireland, July, 1881.
—— Journal of the East India Association. Vol. XIV, No. 1.
—— Proceedings of the Geologists' Association. Vol. VII, No. 4.
From the SOCIETY.—Proceedings of the Asiatic Society of Bengal, December, 1881.
—— Journal of the Society of Arts. Nos. 1531, 1532.
—— Proceedings of the Royal Geographical Society, April, 1882.
From the EDITOR.—"Nature." Nos. 647, 648.
—— Revue Scientifique. Tom. XXIX, Nos. 12, 13.
—— Matériaux pour l'Histoire de l'Homme. Tom. XII, liv. 12. Tom. XIII, liv. 1.

The election of EVERARD F. IM THURN, Esq., was announced.

The President exhibited an interesting series of large carvings and painted masks from New Ireland, upon which he offered some remarks.

The following paper was then read by the author:—

The PAPÛANS *and the* POLYNESIANS.

By C. STANILAND WAKE, Esq.

THE peculiar geographical position occupied by the mop-headed blacks of New Guinea and the islands of the West Pacific, entirely cut off as they are from the apparently allied peoples of the African continent, has attracted much attention among anthropologists. Whether the Papûans or Papûas, as the tribes belonging to that race are called, are in reality nearly related to any of the African races, or what is their relationship to their neighbours in the Indian Archipelago or Australasia, has not yet been satisfactorily determined. A recent writer, Mr. A. H. Keane, who has specially studied the latter question, has indeed attempted to supply a classification of the Oceanic races, but the attempt is far from satisfactory. Mr. Keane divides these races into three types, based on the colour of the skin, which he describes as the dark type, the fair and brown or Caucasian type, and the yellow and olive-brown or Mongolian type. According to this classification, the dark type comprises the Negritos, the Papûans, the Australians, and perhaps the Tasmanians; the Caucasian type embraces the Eastern Polynesians, and also a continental branch; and the Mongolian type is represented among the Oceanic races by the Malayan peoples.[1]

[1] "Journ. Anthrop. Inst.," vol. ix (1880); and "Nature," vol. xxiii (1880), p. 199.

A radical objection to this classification is that the physical character on which it is chiefly based is of less importance than other characters, a generalization from which would require a different classification. Thus the hair, which is regarded by some anthropologists as a more important feature than skin colour, is woolly among the Negritos and Papûans, but smooth and straight among the Australians. Again, the Australians and Papûans may be described as full-bearded races, while the Negritos are absolutely beardless. Moreover, this dwarf dark race belongs to the short-headed division of mankind, but the true Papûans and the Australians are as distinctly long-headed. A classification on the basis of skin colour and hair would thus require the Negritos and Papûans proper to be associated. By the other characters referred to the latter must, however, be placed rather with the Australians, who differ from the other races named in the form of the hair, which connects the Australians with the Polynesians, who have themselves certain features in common with the Papûans.

It is with the relationship between the Papûans and the Polynesians that this paper is more especially concerned; and I propose first of all to consider the physical grounds on which Mr. Keane places those races in different divisions in his general scheme of classification. This is, as we have seen, chiefly based on complexion or skin colour. It is somewhat strange that Mr. Keane should refer to colour so prominently; as, when considering the objections to the placing of the Polynesians among peoples of the Caucasian type, he remarks that "the question of colour must anthropologically be regarded as altogether of secondary importance." There are black and dark brown Caucasians in different parts of Asia and Africa, and why not, therefore, brown Caucasians in Polynesia ?[1] Mr. Keane may, however, mean only that his Oceanic Caucasians are brown, as distinguished from his fair continental Caucasians and the Papûans, and other peoples comprised in the division of dark types. But this is not an accurate statement of the facts, if the term "Papûan" is not restricted to the natives of Melanesia. Dr. Meyer says, as to the natives of New Guinea, that they present a great diversity of complexion, "shown in the transitions from the fair shades of the Malays to those of the true black Papûans."[2] Dr. Michlucho Maclay speaks of the natives of Astrolabe Bay as being decidedly Papûans, but as having light chocolate-brown skins.[3] Dr. Comrie declares that the natives of the south-east coast of New Guinea vary from rusty

[1] "Nature," vol. xxiii, p. 222.
[2] Cited in "Australasia," edited by Mr. Wallace, p. 446.
[3] *Ibid.*, p. 453.

black to a yellowish brown, the natives of the immediate neighbourhood of East Cape being, however, of a lightish brown.[1]

Finally, the Italian traveller D'Albertis affirms that the yellow race of New Guinea, "if not aboriginal, is at least the most ancient existing, and has spread over the greater part of the island, while the black appears to be restricted to certain points of the west, south, and north coasts."[2] According to this view, the true Papûans are yellow rather than black, in which respect they approach much nearer to the Polynesians than Mr. Kean's classification supposes. The complexion of the Polynesian peoples is, however, very variable. Dr. Topinard remarks that "according to some it is of mahogany colour, to others of a dull copper colour. M. Bourgarel says it is of a yellowish-olive hue, lighter sometimes than that of the Malays, especially at Tahiti. Jacquinot says it is generally tawny-yellow, mixed with more or less dark bistre."[3]

We may leave the question of colour for the present, as it is admitted to be anthropologically of secondary importance, and see to what other features Mr. Keane refers. The Malay word meaning "frizzly," which gives name to the Papûans, shows what has been considered the most prominent characteristic of the race. The hair of the Polynesians, on the other hand, is smooth, often curly and wavy. The long head of the Melanesian is referred to as proving that dolichocephaly is the distinctive mark of the Papûan type, whereas the skull of the Polynesian approaches brachycephaly.[4]

These are the chief physical grounds on which Mr. Keane affirms that the Papûans and Polynesians form absolutely distinct races, and I will now proceed to point out the weakness of his case. In the first place, it should be mentioned that, although the existence of a Papûan type and a Polynesian type may be admitted, it is by no means easy to say what are their special characteristics. Mr. Keane divides the Papûans into three divisions, namely, the Papûans proper, the Sub-Papûans West, or Alfuros, who inhabit the islands between Sumatra and New Guinea, and the Sub-Papûans East, or natives of Melanesia. Of these, the Alfuros are supposed to possess a large Malay intermixture, while the Melanesians, including the Fijians, show the presence of a strong Polynesian element. It is, however, among the long-headed Melanesians that Mr. Keane finds "the very purest specimen of the race," although he refers to two natives from the interior of North-

[1] "Journ. Anthrop. Inst.," vol. vi (1877), p. 106.
[2] "New Guinea," vol. i, p. 86.
[3] "Anthropology," p. 479.
[4] "Nature," vol. xxiii, pp. 221, 202.

west New Guinea, figured by M. Raffray, as representing "characteristic full-blood Papûan types."[1] M. Raffray's typical Papûans ought in this case to resemble the pure Melanesian type to which Mr. Keane refers, and which is represented by the extremely dolichocephalous mountaineers of Fiji. These islanders have been shown by Professor Flower to belong to the hypsi-stenocephalic type of Melanesia.[2] What is the case, however, with the typical Papûans of M. Raffray? This traveller says nothing as to their personal appearance, except that they had the short hair of the Arfak type, a statement which is confirmed by the portraits given of them.[3] M. Raffray would seem to regard all the natives of New Guinea met with by him as belonging to the same race, although differing among themselves sufficiently to form sub-families or types.[4] The Wosaonis whom he figures are not represented as having the long nose with pendent tip supposed to be characteristic of the Papûans. That the tribes belonging to this race exhibit much difference among themselves is almost universally recognised. Thus the mountaineers of the neighbourhood of Dorey, known as Arfaks, differ from the natives of Dorey in being taller and darker, and in having a more oval face and more aquiline nose.[5] Both of these tribes, however, belong to the same type as the inhabitants of the island of Mafor, which is supposed to have been the original home of the natives of the shores of Geelvink Bay and its islands.[6] This opinion is entertained by Dr. Beccari, who believes that he has found three types among the Papûans.[7] One, which he terms Oriental negroes, or primitive Papûans, but which does not exist as a separate race, is "dwarfish, with short woolly hair, skin almost or quite black, nose much depressed, forehead extremely narrow and slanting, and brachycephalic cranium." The second, which inhabits the greater part of the northern peninsula, and which Dr. Beccari considers typically Papûan, has a dolichocephalous skull with the general characters usually ascribed to the Papûans, that is, a flat forehead, and prominent brows, curved and high nose with prolonged tip, and large mouth with thick and pouting lips. The third type, that of the Mafu Papûans, is often distinguished by fine, even European, features, which the Italian traveller supposes to be due to a mixture of Caucasian or Hindoo blood. Signor D'Albertis, who visited not only Dorey but also the

[1] *Ibid.*, p. 202.
[2] "Journ. Anthrop. Inst.," vol. x (1881).
[3] "Le Tour du Monde," (1879), 1st Sem., p. 267.
[4] *Ibid.*, p. 274.
[5] *Ibid.*, p. 254.
[6] D'Estrey "La Papouasie," p. 148.
[7] Cited in "Australasia," p. 452.

south-eastern coast and the interior of New Guinea, also came to the conclusion that three distinct types exist among the Papûans. Those of Moatta, and of Kiwai Island at the mouth of the Fly River, have small round heads with low and very narrow foreheads, prominent eyebrows, and projecting jaws, resembling somewhat the primitive Papûans of Beccari. About 50 miles up the river, at Canoe Island, the natives have a different form of skull, very long and flattened at the top, with very retreating forehead and projecting jaws, evidently the same as the second type of Beccari. In the interior D'Albertis found that the natives had smaller heads, somewhat long, but not much flattened, the forehead being high and almost perpendicular. The eyebrows are not prominent, and the jaws but little projecting.[1] The peoples belonging to this type, which may be compared with the Mafu type of Beccari, are lighter coloured than the coast tribes, and D'Albertis states that they resemble in appearance and customs the inhabitants of the eastern parts of New Guinea. It is on this ground he concludes that "the black race is neither aboriginal in New Guinea nor yet the most ancient of its people."[2] The Italian traveller thinks the three types of Papûan skulls observed by him may perhaps belong to one series; but he obtained from the interior of New Guinea skulls which he states are quite distinct from those in his collection which constitute the three principal varieties. These skulls are "remarkable for their weight, for their length, for being much flattened at the sides, and for other strongly marked characteristics which indicate that they belong to an excessively low type."[3] They, in fact, belong to the Melanesian type which Mr. Keane refers to as that of the pure Papûans; while his full-blood Papûans of the north-west coast of New Guinea present a totally different type, that of the Mafors.[4] This shows how difficult it is to say what are the special features which characterise the Papûan race. The difficulty is almost as great when particular tribes are considered. We have a case in point in the Koiari, who are thought to be the original inhabitants of the south-eastern peninsula of New Guinea, where tribes with supposed Polynesian affinities have been met with. The Koiari are described as generally small in stature, with very small hands and feet, dark in colour, and much more hairy than their neighbours,

[1] "New Guinea," vol. ii, p. 377.
[2] *Ibid.*, vol. i, p. 86.
[3] *Ibid*, vol. ii, p. 381.
[4] MM. Quatrefages and Hamy appear to regard the Arfak mountaineers near Dorey as presenting the pure Papûan type. Their heads are said to be longer, larger, and higher than those of the Mafors. See "Revue d'Anthropologie," 2nd Ser., tom. iii (1880), p. 123.

many of them having beards and whiskers. The Rev. Mr. Lawes states, however, that they present great differences of appearance. "Some seem to resemble some of the Australian tribes; a noticeable feature in others is the hooked nose spoken of by Mr. Wallace as characteristic of the true Papûan; others have quite a Chinese appearance, while others might lead one to fancy that New Guinea was the refuge of the lost ten tribes."[1]

After what has been said, we may be tempted to doubt whether the Papûans are entitled to be considered as constituting a distinct race. There is, however, the same difficulty in deciding on the characters which constitute the Polynesian peoples a distinct race. Mr. Keane divides his Caucasian type into two branches, the Continental, including the Khmêr or Cambodian group, and the Oceanic, embracing the Indonesian and the various Eastern Polynesian groups. The particular physical grounds on which he classes the latter with the Caucasian division of the human race it is rather difficult to determine. Mr. Keane gives the following description of the allied continental branch: "A fine, vigorous race, with symmetrical and well-set frames, stature rather above the middle size, straight profile, oval face, dolichocephalous head, high forehead retreating very slightly, black hair, often inclining to brown, straight or wavy and elliptical in section, beard and whiskers well furnished and always frizzled, or at least wavy, eyes perfectly straight and horizontal, nose not particularly prominent, but nearly always straight and never flattened at the root, cheek-bones scarcely, if at all, prominent, mouth of medium size and even small size, with moderate thick lips, but no trace of prognathism, complexion mainly of a bistre or brown colour, but varying from fair and even white to light brown and dark, though never so dark as that of the Aryans of India."[2] This description, as Mr. Keane justly observes, corresponds in all essentials to the ordinary Caucasian of Western Asia and Europe. But does it also apply to the islanders of the East Pacific? Mr. Keane remarks that they are "one of the finest races of mankind, Caucasian in all essentials, and without a trace of Mongolian blood." He says they are "distinguished by their fine, symmetrical proportions, tall stature, handsome and regular features," smooth but not lank hair, often curly and wavy. These particulars are intended to identify the Polynesians with the Cambodians, and they may be thought to do so. It must not be supposed, however, that all the Polynesian islanders answer to that description. In reality, great differences are observable among them. De Bougainville affirmed that there were two

[1] "Journ. Anthrop. Inst.," vol. viii (1879), p. 374.
[2] *Ibid.*, vol. ix, p. 262.

different races of men at Tahiti—one very tall, with features resembling Europeans, the other of middle size, and in colour and features differing little from mulattoes, and having hair quite frizzled.[1] Captain Cook also remarked the difference between the higher class and the common people,[2] although he did not ascribe it to mixture of race as the French navigator had done. Elsewhere, however, he observes that there is a striking difference between the women of Eimeo and those of the other islands, the former being of low stature, dark hair, and forbidding features.[3] Cook says of the natives of Hervey Island that they seem to differ in both person and disposition from those of Wateeoo. Their colour was of a deeper cast, some of them being of fierce and rugged aspect, resembling the New Zealanders, although others were fairer.[4] The last-named people are described as being in colour from a pretty deep black to a yellowish or olive tinge; faces round, with full lips but not thick, noses full towards the point but not flat, eyes large with very free motion, and hair black, straight, and strong, sometimes of a curling disposition, and of a brown colour.[5] Of the Sandwich islanders themselves, Cook, who was struck by their resemblance in features and disposition to the New Zealanders,[6] observes that some are not unlike Europeans, but that they present considerable variety in features, some having the faces long, but others, especially the women, round.[7] Even of the natives of the Friendly Islands, Cook remarks that, owing to their features being so very various, it is difficult to fix on any general likeness, unless it be a fulness at the point of the nose. He states, however, that there were hundreds of truly European faces, and many genuine Roman noses.[8] This is different from what was observed by Anderson in relation to the New Zealanders, among whom no true aquiline nose was seen, although he describes them as having, like the Tongans, noses full towards the point.[9] Mr. Hale, of the United States exploring expedition says, the Polynesian nose "is eminently short and straight, but in certain tribes, and in some individuals of all tribes, it is long and aquiline, always appearing, however, to be slightly depressed and widened at the lower part." He adds that this depression of the nose is, with the complexion and

[1] "Voyage round the World," Eng. Trans., p. 249.
[2] "Hawksworth's Voyages," ii, p. 187.
[3] "Third Voyage," ii, p. 89.
[4] *Ibid.*, i, p. 209.
[5] *Ibid.*, i. 154.
[6] *Ibid.*, iii, 132.
[7] *Ibid.*, ii. 192. 228.
[8] *Ibid.*, i, 380.
[9] *Ibid.*, i, 154.

hair, the only general characteristic of the race.[1] This, however, is as much as to say that the only general characteristics of the race in which the Polynesians agree with the Cambodians are their complexion and hair. For the depression of the Polynesian nose, which appears to have struck voyagers in the Pacific so forcibly, can hardly be said to be noticeable among the Caucasians of Indo-China. Moreover, the form of the head among these peoples appears to be quite different. The Cambodian head is dolichocephalic, whereas that of the Polynesians is said by Mr. Keane to be brachycephalic, a peculiarity to which we shall have occasion again to refer.

It may be much doubted whether the Polynesians do not in reality possess as many features in common with the Papûans as with the Caucasian tribes of Indo-China. The fact that both of them belong to the bearded stock of mankind is of great significance. The long and aquiline nose observable among the Polynesians, although wanting the elongation of the tip often met with among the Papûans, undoubtedly resembles the large arched and high nose of the latter, which gives the face an European aspect.[2] Probably there would be a closer resemblance if it were not that the Papûan wears the nose-stick, and that the Polynesian nose, "which is naturally rather long and somewhat arched," is flattened in childhood by the mother.[3] Another feature in the Polynesian face which appears to have particularly struck the early voyagers is the expression of the eye, which, according to Dr. Topinard, is large, well formed, and more or less full.[4] Dr. Forster says of the natives of Tahiti that "their women have an open, cheerful countenance, a full, bright, and sparkling eye."[5] Again, as to the women of the Friendly Islands, he says, "their brown complexion becomes their regular features, their roundish faces, and fine, full, and lively eyes. Their countenance is overspread with an inexpressible smile."[6] That the Papûan eye has often the same character is evident from the portraits we possess, and is particularly observable in those given by Mr. Earl. Mr. Wallace does not refer expressly to this feature of the Papûan face in his work on the Malay Archipelago, but he does so indirectly in a comparison made between the Polynesians and the Papûans, both of whom he describes as "energetic, demonstrative, joyous,

[1] "Philology and Ethnology," p. 10.
[2] Wallace's "Malay Archipelago," vol. ii, p. 446.
[3] "Australasia," p. 493.
[4] "Anthropology," p. 479.
[5] "Observations," p. 230.
[6] *Ibid.*, p. 235. Dr. Forster says also of the Caroline Islanders that their eyes are large, lively, and piercing ("Observations," p. 600).

and laughter-loving," in all these particulars differing widely from the Malay.[1]

The existence of differences of no little importance between the Polynesians and Papûans is perfectly consistent with those races having been derived from a common stock. It must not be forgotten that the peoples referred to the so-called Caucasian type differ among themselves so much in language and features that they are often held to be radically distinct. The distinction between the Aryans and Semites is probably the same in character, if it has not had in fact the same origin, as that between the Papûans and the Polynesians, the former of whom have probably as great a resemblance to the Semitic branch of the Caucasian family as the latter have to its Aryan branch. The Papûans, indeed, exhibit certain features not uncommon among Europeans more strongly than the Polynesians themselves. Dr. Topinard expresses his opinion that the Ainos, or aborigines of Japan, belong to the European group,[2] and he makes a remark with reference to those aborigines which has indirectly an important bearing on the Caucasian character of the Papûans. He says: "Among the Todas of the Nilgherries, and, strangely enough, further on towards the north, among certain of the Ainos, two of the fundamental Australian traits are met with, namely, the very projecting superciliary arch, and the abundant hair on the whole body, characteristics the more remarkable from the fact that the reverse is the rule through the whole of Eastern and Southern Asia;"[3] and it might have been added among the Polynesians also. The abundant development of the pilous system, and the prominence of the superciliary arch, are by no means uncommon among Europeans, at all events in our western regions. Here the former, although not so pronounced, is a matter of common observation; and even in Eastern Europe it is so striking that Dr. Topinard supposes a race of the Aino type to have spread from Russia to the Pacific and the Indian Ocean.[4] As to the other feature, Dr. Topinard remarks, in relation to the dark European type, that the superciliary arches vary, "never exhibiting in the male sex the large size which we notice in the Melanesian races, nor the obliteration peculiar to the majority of Mongolian or negro skulls."[5] This is generally true, but Dr. J. Barnard Davis, when speaking of the Western Irish, who may probably be taken as representative of a very early European population, refers to

[1] Vol. ii, 454.
[2] "Anthropology," p. 476.
[3] *Ibid.*, p. 536.
[4] "Revue d'Anthropologie," 2nd Ser., tom. ii, p. 637.
[5] "Anthropology," 448.

the strongly marked superciliary ridges, "extending across the nose, making a horizontal line upon which the eye-brows are placed, and overhanging the eyes and face," as one of the distinct features in its physiognomy.[1] We may assume, therefore, that the two important features in question are European characteristics, in the sense that they are often met with among European peoples. The Papûans, the Melanesians, and Tasmanians, who also possess them, may therefore very properly claim to be fundamentally connected with the Caucasian family to which the Europeans belong, a claim which is supported by the fact that they also belong to the bearded division of mankind. The Polynesians also are a bearded race, and the conclusion that they likewise belong to the Caucasian stock is not invalidated by their wanting the prominent superciliary arch[2] and hairy frame of the Papûans, these characteristics being equally absent from many recognised Caucasian peoples.

The conclusion that the Papûans and the Polynesians belong fundamentally to the same race will appear the less strange if it can be really established that the Malayan Archipelago now contains peoples intermediate between those races. Mr. Wallace mentions the existence in the island of Ceram of an indigenous race very similar to that of the so-called Alfuros of the northern peninsula of Gilolo. The last-named people he describes as being "quite distinct from the Malays, and almost equally so from the Papûans. They are tall and well made, with Papûan features and curly hair; they are well bearded and hairy-limbed, but quite as light in colour as Malays."

The island of Bouru, which is between Ceram and New Guinea, is said by Mr. Wallace to be inhabited by two distinct races, "a shorter, round-faced people, with a Malay physiognomy, who may probably have come from Celebes by way of the Sula Islands; and a taller bearded race resembling that of Ceram."[3] This fact is important, as Bouru has been identified by some writers as the Sacred Island of the West from which, according to Samoan tradition, the Polynesian race started on its Eastern migrations.

The bearded peoples of Ceram and Bouru have been more recently described by Mr. Wallace as undoubtedly of Papûan race, and he distinguishes them from the light-coloured peoples of the northern peninsula of Gilolo, who resemble the Polynesians

[1] "Thesaurus Craniorum," p. 70. Spenser describes the native Irish as wearing *long glibbes, i.e.*, "a thick curled bush of haire hanging down over the eyes, and monstrously disguising them" ("View of the State of Ireland," in "Ancient Irish Histories," vol. i, p. 84).

[2] Dr. Topinard says as to the Polynesians, "the superciliary arches project but little" ("Anthropology," p. 479).

[3] "Malay Archipelago," vol. ii, p. 449.

in many respects, and whom he supposes to be a Polynesian colony intermixed with the Papûan aborigines, although speaking a highly peculiar language.[1] A migration westward from the Pacific is suggested by Mr. Wallace in connection with another people. He states that "the inhabitants of Timor appear to be wholly of Papûan race, but of a very distinct type from the natives of New Guinea. Their hair is less frizzled, their colour somewhat lighter, and their features less prominent." Their houses are not usually raised on posts, and they have the practice of "taboo" in full force. The islands east of Timor are inhabited by a similar race, whose head-stealing propensity, however, associates them not only with the wild tribes of Borneo, but also with the natives of New Guinea.

The presence, in the region from whence the Polynesian islanders are now generally believed to have migrated, of peoples who present points of contact with both the Papûans and the Polynesians strongly confirms the conclusion sought to be established by this paper, that these races have had a common origin. Nor is this view weakened by the discovery in New Guinea itself of tribes occupying much the same position. The Motu and allied tribes of the south-eastern peninsula of this island are said to differ in colour and also in features from the Papûans,[2] and they are supposed by the Rev. W. G. Lawes to be of Malayan origin,[3] an opinion which a more recent traveller, Mr. Octavius Stone, also formed.[4] Other writers, however, do not accept this view of the origin of the Motu.

Signor D'Albertis, indeed, has come to the conclusion that the light-coloured peoples, and not the dark tribes, represent the earliest inhabitants of New Guinea.[5] My theory, however, requires that they should belong to the same stock, an opinion which agrees with that of Dr. Comrie, who states that after "noticing in the same villages, and apparently in the same family, individuals exceptionally dark, the features and hair, even in the lighter individuals, remaining unaltered," he was "forced to the conclusion that the lighter-coloured people were the same race."[6] If this be so, there cannot be much difficulty in explaining

[1] "Australasia," p. 401.

[2] "Journ. Anthrop. Inst.," vol. vii (1878), p. 472.

[3] *Ibid.*, vol. viii, p. 371.

[4] "A Few Months in New Guinea" (1880), p. 75.

[5] D'Albertis' light-coloured race of the interior of New Guinea was referred to by Mr. Ranken in 1877 ("Journ. Anthrop. Inst.," vol. vi, p. 242), on the authority of a Polynesian missionary, who described them as a tall brown people, differing from the light tribes of the south-east peninsula; Mr. Ranken supposes them to be like the people of Ceram and North Gilolo described by Mr. Wallace.

[6] The hair of both the light and the dark Papûan is equally flattened and tape-like ("Journ. Anthrop. Inst.," 1877, vol. vi, p. 106).

the differences which now exist between the Polynesians and the Papûans.[1] The lighter-coloured Papûan tribes of New Guinea, and the Malayan Archipelago approach the Polynesians nearer than the darker tribes, but their frizzly hair shows that they do not represent perfectly the primitive Caucasian stock of that region.

We have now to consider the causes of the physical differences which exist between the Papûans and the Polynesians, assuming that they have sprung from a common stock.

As to the colour of the skin, we have had occasion to point out that both the Papûans and the Polynesians present various shades of colour, from yellow to black in the one case, and from yellow to dark brown in the other. The lighter colour of some of the Papûan tribes is generally explained as being due to crossing with the Polynesian race. Among the Sandwich Islanders, however, according to Choris,[2] the curious phenomenon is presented of the children when first born being black, the people of distinction dark brown, and the labouring people of a lighter tint, or orange colour. This Dr. Topinard explains by supposing the two classes to belong to distinct races, which means that it is due to the crossing of two races, one of which shows its greater influence in the dark colour of the children. An analogous explanation must be given of the difference in colour of the Papûans and Polynesians, granting, as we may, that the former are as a rule of a much darker hue than the latter, and that while black predominates in the one, yellow is the prevailing tint in the other. These extremes of colour may no doubt be referred to distinct races, both of which would seem to have been represented in the Tasmanians, whose colour was said to be as black as soot, with a slightly yellowish tinge in it.[3]

Dr. Topinard says that "colour is an excellent character of race, but it should not be taken as a basis of classification." He adds, "Taken in connection with others, this character becomes very valuable. The Bosjesman is distinctly separated from all the other negroes by a peculiar yellow tint, and the Australians from all the other straight-haired races by the black."[4] It would seem that not only may the colour of the skin be changed through the influence of climate, but the change may be transmitted in an intensified form from one generation to another. Thus, fair Europeans, when exposed to a tropical sun,

[1] Mr. Ranken refers to a Rarotongan legend which speaks of Papûa land as at one time the home of the Polynesian race, Papûa being another name for the Land of Red-Feathers, *op. cit.*, p. 240.

[2] Cited by Dr. Topinard ("Anthropology," p. 389).

[3] *Ibid.*, p. 386.

[4] "Anthropology," p. 350.

" become sunburnt, and of a brick-red hue, or assume a yellowish tint, which," says Dr. Topinard, " Mourad considers as the first evidence on the coast of Guinea of having become acclimatized. This yellow colour passes into that of copper, and becomes darker in each succeeding generation."[1] The French anthropologist remarks, as to the hair, that there is no authentic instance of the transmission of change in the character of the hair, when this has taken place in an individual, through the influence of external conditions, and the French anthropologist affirms, indeed, that no explanation can be given as to the origin of the varieties of the hair in its fundamental types.[2] Hair form is, therefore, a more important anthropological character than colour, a change which can be transmitted, if we are to believe Mourad, and on this ground the Australians should, in a classification of the Oceanic races, be placed with the Polynesians rather than with the Papûans. Of course it may be objected that if the Polynesians and Australians are associated on the ground of similarity of hair form, the Papûans by their frizzly hair should be placed apart from both. The reply to this objection is that all these races agree in other characters equally important. For instance, the abundant growth of hair on the face, which is a characteristic of both the Indo-European and the Semitic branches of the straight-haired Caucasian family, is possessed also in common by the Oceanic races. If this be a mark of original community of race, we must conclude that the frizzly hair of the Papûan is the result, like the dark colour of the Australian, of a cross between peoples of different types.

The position of the Australians in relation to the other Oceanic races, connected as they are by hair form with the Polynesians, notwithstanding their more intimate alliance with the Papûans by other characters, is one of great importance. Nor is this lessened by a consideration of the cranial conformation of those races. Dr. Topinard remarks that the vault of the Polynesian skull, where it is not affected by the Melanesian element, is generally occupied by a crest, the two sides of which incline like the roof of a house, or are hollowed out in wide channels, after which come the parietal protuberances.[3] Elsewhere he states that the Polynesians, those of the east more especially, exhibit a form of skull similar to that of the Tasmanians, which is of the keel-shaped type, " while it never exists either in Australians or New Caledonians, who are the most Melanesian."[4] Nevertheless, the Tasmanian skull agrees closely in other important features with the skulls of both the Australians and the Melanesians. Professor Flower, when comparing the crania

[1] " Anthropology," p. 389.
[2] *Ibid.*, p. 391.
[3] " Anthropology," p. 478
[4] *Ibid.*, p. 500.

of the Andamanese and the Tasmanians, states that the latter make an approach to brachycephaly, but that the "superciliary ridges, the low orbits, the wide nasal aperture, the prognathism common to all Melanesians, and distinguishing them from Negritos, are all exaggerated in the Tasmanians."[1] In some of these characters, moreover, and in others referred to by Dr. Davis,—who, nevertheless, strongly insisted on the essential difference between the Tasmanians and their neighbours, especially their long, thick, and heavy skulls, and their enormous mouths and large and massive teeth,—the Tasmanians agreed with the natives of Australia, whom they resembled also, as we have seen, in being well furnished with hair on the face. The characters in which these races differ show in the former a cross with the Polynesians, as Dr. Topinard supposes, or perhaps rather with the short-headed Negrito race.

Among the Australians a crested and rafter-like form of the vault of the cranium is frequently met with, and with them also is found, more commonly than among any other race which has a tendency to the early closing of sutures, the peculiar form of skull known as *scaphocephalism*.[2] This is defined by Dr. Topinard as being a deformity peculiar to the cranium "characterised by its contraction transversely, its antero-position elongation, and its increase in height. The skull turned upside down has the form of a boat, from which its name is derived; the forehead is straight, bulging, and narrow; the occiput is globular and conical, and projects backwards from the lambdoidal suture. A horizontal crest reaches from one to the other on the anterior half, the sides shelving like the roof of a house, which the obliteration of the parietal protuberances renders still more prominent."[3] This deformity is due among the Australians to the premature closing of the anterior sutures, but Professor Van der Hoeven found that the skulls of the Caroline Islanders present the same peculiarities without reference to the closure of any sutures, and he regarded them accordingly as natural scaphocephali. The same form of cranium has since been identified as possessed by many of the islanders of the West Pacific, most of the Melanesians probably belonging to the curious type of skull termed *stenocephalic*. Dr. Barnard Davis, who was the first to make this important observation, mentions that Dr. Welcker had already claimed as a natural peculiarity the approximation to scaphocephalism in the Esquimaux skull.[4] This is described by Dr. Topinard as forming a long parallelogram, the sides of

[1] "Journ. Anthrop. Inst.," vol. ix (1880), p. 130.
[2] Dr. Davis "On Synostotic Crania," p. 39.
[3] "Anthropology," p. 175.
[4] "On Synostotic Crania," p. 31, note.

which fall down vertically, and in some skulls the sagittal crest is so marked that they seem, physiologically, scaphocephalic.[1]

Signor D'Albertis states that the remarkably high, long, and flattened skulls obtained by him from the interior of New Guinea resemble crania in his possession from the New Hebrides, and others he had seen from the interior of the Fiji Islands.[2] This is important, as Professor Flower affirms that, if we may judge from the series of crania examined by him, the mountaineers of Viti Levu are the most dolichocephalic, or more properly *stenocephalic*, people in the world. He says, moreover, that they "present in their cranial conformation a remarkable purity of type, and that this type conforms in the main with that of the Melanesian Islands generally."[3] The existence of this type in New Guinea, as mentioned by Signor D'Albertis, confirms the view that the Papûans are by no means a pure race. At the same time, the evident connection which exists between the Papûan type and the Melanesian type found among the Fijian mountaineers would seem to prove that the latter are themselves not a pure race, but are the result of a cross between different races. The Papûans can hardly have been indebted for their frizzly hair and dark skin to the Melanesians, and probably both have derived those peculiarities from a third source. Dr. Davis remarked "that the high narrow skull is not essentially associated with the mop-headed races, and that it is equally independent of the fact of the hair growing in tufts or otherwise."[4] The Australians and the Esquimaux, who show a tendency to that form of skull, are straight-haired. Moreover, the hair of the Caroline Islanders, who are scaphocephalic like the Melanesians, is straight.[5] The probability is, therefore, that natural scaphocephali first appeared among a straight-haired race. Moreover, as that deformity depends on the premature obliteration of the sagittal suture, it most probably showed itself originally with one of the inferior races. Professor Gratiolet, as quoted by Dr. Davis, has said not only that the growth of the brain ceases sooner in those races in which the sutures close early, but also that there is a difference between the higher and the lower races as to the order in which the sutures are closed normally. In the latter the anterior sutures close before the posterior, and in the higher races it is the reverse, the posterior sutures close earlier than the anterior. On this Dr. Davis remarks: "Certain races possess a super-

[1] "Anthropology," p. 474.
[2] *Op. cit.*, ii, 381.
[3] "Journ. Anthrop. Inst.," vol. x (1880), p. 153, *et seq.*
[4] "Anthropological Review," vol. iv (1866), p. 60.
[5] *Ibid.*, p. 52. Dr. Forster says "their hair is black, long, and falling in curls" ("Observations," p. 600).

activity in the process of ossification of the bones of the head. Many of the negro and Australian races are remarkable for the great thickness and weight of the skull. And, in the same way, these races are distinguished for a proneness to closure of the sutures which takes place at an earlier period of life than any European races." Notwithstanding this common tendency, true scaphocephalism appears, according to Dr. Davis, to be rare among negro skulls, and more frequent among the Australians.[1] It is to the latter race, therefore, I would assign the position of representatives of the primitive stock among whom that peculiar deformation of the skull first established itself, to give rise, under varying conditions of crossing with other races and under other influences, to the pyramidical skull of the Esquimaux, and the hypsi-stenocephalic skull of the islanders of the West Pacific. This would require a much wider spread than at present of the primitive race now represented by the Australians, and there are facts which show that such an extension at one time took place.

It has already been mentioned that two of the fundamental Australian traits are the projecting superciliary arch and the abundant hair on the body. The possession of these two traits may be regarded, therefore, as signs of relationship, however distant, and, as they are met with among the Tasmanians and the New Caledonians, we must consider these peoples and the Australians to be fundamentally allied. Dr. Topinard, who supposes the Tasmanians to possess a Polynesian element, nevertheless states that the former possessed very projecting superciliary arches and a very abundant growth of hair on the face and the rest of the body, as in Australians.[2] The New Caledonians are also distinguished by prominent eyebrows, and, among the dark type at least, the body is said by M. Bourgarel to be often covered with short hair.[3] This is no less true of the Melanesians. The prominent brow of the Melanesians has already been referred to,[4] and Dr. Forster long since noted that some of the natives of Mallicolo and also of Tanna were very hairy.[5] According to Dr. Meyer, the Papûan has very prominent brows, and the same kind of hair that adorns his head and face grows more or less densely on his arms, legs, and breast,[6] in which he agrees with the Aïnos and the Todas, whose possession

[1] "On Synostotic Crania," p. 39.
[2] "Anthropology," p. 501.
[3] Mem. "Soc. d'Anth.," tom. ii (1865), pp. 375, 382.
[4] See also "Journ. Anthrop. Inst.," vol. vi, p. 386, as to the Admiralty Islanders, and vol. x, p. 159, as to the Fijians.
[5] "Observations, &c.," p. 243.
[6] Wallace's "Australasia," p. 447. As to the Humboldt Bay natives and the Admiralty islanders, see the "Journ. Anthrop. Inst.," vol. vi, p. 385.

of those Australian traits we have already had occasion to notice.

If, however, we take the Australians as the representatives of the primitive stock from which all the present races of the Oceanic area have sprung, we shall have to show how these races can have acquired the peculiarities which now distinguish them. As to the Australians themselves, we can hardly doubt that they are not an absolutely pure race. The existence of two types among them has been ably maintained by Dr. Topinard,[1] and he says "it is clear that the Australians might very well be the result of the cross between one race with smooth hair from some other place and a really negro and autochthonous race." The French anthropologist appears to think that the Australians possess an Indian element, as he says that "if the Australians are Hindoos as regards their hair, they are Melanesians, or, if you will, New Hebrideans, New Caledonian negroes in every other respect."[2] This confirms what has already been said as to the relationship between these various peoples, although I would reverse the description, and say that the Melanesians are Australians with a Negrito intermixture. The frizzly hair sometimes met with among the Australians is to be explained by assuming that the same race to whom both the Tasmanians and Papûans are indebted for their peculiar hair form at one time occupied the Australian continent,[3] or have been in contact with the Australian race. The existence in Southern India, as mentioned by Dr. Topinard,[4] of tribes presenting marked Australian features is not inconsistent with this opinion, as none of them have frizzly hair, which appears, however, among Indian tribes further north, where a Negrito element is perhaps more likely to be met with.

To a very ancient cross with this element the present Australian aborigines are, I believe, indebted for their dark colour, if not for their flat nose and their large full eye, which is remarkable for its fine expression.[5] M. de Quatrefages supposes the Negrito race to have at one time spread throughout the whole of the Asiatic Archipelago to New Guinea, where it has

[1] "Revue d'Anthropologie" (1880), p. 123.

[2] "Anthropology," p. 502.

[3] This conclusion differs somewhat from the view expressed by me in the "Revue d'Anthropologie" of 1873, and approaches very nearly that of Dr. Topinard as to the duality of races on the Australian continent, although I still think that the Australian race shows comparatively little trace of Negrito influence.

[4] "Anthropology, p. 504.

[5] This observation is fully borne out by the portraits given in Dammann's "Anthropologisch-Ethnologisches Album."

mixed with the Papûans, and as far north as the Marianne Islands and Japan.[1]

He seems to think, moreover, that the Negritos have contributed to the peopling of Australia, and he remarks that numerous stone instruments found in Java, and which are attributed to the first inhabitants of this island, resemble those fabricated by the natives of Northern Australia.[2] He further cites, with approval, the opinion expressed by the American traveller Pickering, that the inhabitants of the New Hebrides and of the Solomon Islands belong to the Negrito race.[3] The Melanesians are not Negritos, but they exhibit at least the effect of a cross with this race of a much more marked character than that which the Australians present, as not only has it changed the character of the hair, but it may possibly have contributed to the height of the vertical index exhibited by the Melanesians.[4] We see the influence of the Negrito element amongst the Tasmanians in their dark colour and in the nature of their hair, which, as pointed out by Dr. Davis, grew like that of the Andamanese, in small corkscrew ringlets.[5] The approach made by the Tasmanians to brachycephalism, and the "particular roundness, or spheroidal form," which manifests itself, says Dr. Davis, in all their features,[6] may probably be explained in the same way. The natives of New Caledonia present an analogous although not quite similar condition of intermixture. Dr. Davis has shown that the Melanesian type predominates,[7] but according to Dr. Topinard, Polynesian influence exhibits itself in the stature and the nasal index. Both of these characters, however, may be due to the presence of an Australian or Melanesian element. There is reason, moreover, to believe that the Malays and the Negritos of the Andaman Islands have influenced each other, if, indeed, they are not nearly related.[8] Professor Flower, who regards the Negritos as representing "an infantile, undeveloped, or primitive form of the type from which the African negroes on the one hand, and the Melanesians on the other, with all their various modifications, may have sprung,"[9] remarks that one difficulty

[1] "Revue d'Anthropologie," vol. i, p. 244.
[2] *Ibid.*, pp. 233–238.
[3] *Ibid.*, p. 237.
[4] I am aware Professor Flower states that in only one out of twenty-four Andamanese skulls "does the height exceed the breadth, and this only 2 millimetres, whereas in the frizzly-haired Papûans and Melanesians, with whom the Andamanese have often been associated, the height almost invariably exceeds the breadth." (See the "Journ. Anthrop. Inst.," vol. ix, p. 114.)
[5] "On the Osteology and Peculiarities of the Tasmanians" (1874), p. 9.
[6] *Ibid.*, p. 10.
[7] "Thes. Cran.," p 309.
[8] "Anthropology," p. 496.
[9] "Journ. Anthrop. Inst.," vol. ix, p. 129, *et seq.*

in investigating the evidence of the original geographical distribution of the Negritos "is the resemblance which the skulls of another race, inhabiting nearly the same area, the Malays, bears in many points to those of the Negritos, so that a combination of the frizzly hair of the Papûan with the round skull of the Malay in a mixed race might easily, though perhaps erroneously, be attributed to Negrito influence."[1] From this we might almost infer that the Andamanese themselves may not be a pure race. If this should prove to be the case, it would be an extraordinary fact, after all that has been written about them as typical Negritos. Not much is known as to the affinities of the Andamanese language, but I shall be surprised if it is not found to be more nearly related to some of the languages of the Archipelago than to the Burmese, as suggested by Dr. Latham. If that be so, it may perhaps hereafter appear that the Andamanese belong fundamentally to the same stock as the various races of the Oceanic area, although more profoundly modified than the latter by crossing with the Negrito race and the short-headed Asiatic race of which the Malays are the modern representatives.[2] The origin of the Malays has yet to be determined, but that Asia was the original home of their ancestors, paternal or maternal, is evident from Dr. Topinard's statement that the Tibetan type, to which the Chinese, the Burmese, and the Annamites are allied, establishes the transition between the Mongol and the Malay.[3] It has been customary to speak of the Dyaks of Borneo, the Battaks of Sumatra, and the wild tribes of the Malay Archipelago as Malays. This has been shown, however, by Dr. Davis and others to be a mistake; and as those peoples adjoin other tribes who are allied to the brown type of Papûans or Polynesians, we can hardly doubt that the so-called savage Malays in reality belong to the latter class,[4] although they have become modified by crossing with intruders of the true Malay stock.

We have seen that the light-coloured Papûan tribes of the Eastern Archipelago have been modified by intermixture with the Negrito race, although not to the same extent as the other

[1] *Loc cit.*, p. 129. The moderately dolichocephalic skull of a New Guinea Bushwoman referred to by D'Albertis (*op. cit.*, vol. ii, p. 179) would seem to have much in common with the Andamanese crania figured by Professor Flower. M. Raffray declares the Karons of north-west New Guinea to be Negritos ("Le Tour du Monde," 1879, "Prem. Sem.," p. 270). Reference may be made to an article on the Negritos of the Philippines, by the late Dr. J. Barnard Davis, in the "Journal of Anthropology" (1870).

[2] "Elements of Comparative Philology," p. 59.

[3] "Anthropology," p. 476.

[4] M. Vivien de Saint-Martin says that they have straight hair, a strong beard, an abundant pilous system, a straight or slightly aquiline nose, and eyes of the European type ("Nouv. Dict. Geog. Univl.," art. 'Archipel Asiatique').

Papûan tribes. It is not improbable, however, that the latter may have been further modified by contact with a race other than the Negritos. The occurrence among the dark Papûans of South-eastern New Guinea of individuals whose features, says Mr. Lawes, "might lead one to fancy that New Guinea was the refuge of the lost ten tribes" has already been noted.[1] Mr. Jukes was struck by the Jewish features of some of the southern Papûans.[2] Mr. Wallace refers to the Jewish and elongated nose of the Papûans, which he thinks has had the same origin as their frizzly hair,[3] and Dr. Beccari ascribes the high type of the Mafu Papûans to an infusion of Caucasian or Hindoo blood.[4] A more recent observer, Signor D'Albertis, states that he saw the same type of people at Aden as at Yule Island in New Guinea. He says, indeed, that if Michluko Maclay, who believed he had discovered traces of the Papûans at Borneo and Malacca, had seen the natives of Yule Island, he "would have gone much further to the west to trace the origin of the greater part of the Papûan tribes." D'Albertis here refers to Arabs whom he saw at Aden.[5] Elsewhere he remarks that the Somauli, who had a receding forehead, aquiline nose, moderately thick lips, and curly but not woolly hair, might be mistaken for natives of New Guinea belonging to what he calls the Arab type of Papûan.[6]

The Arab Papûan type has been noticed beyond New Guinea. Mr. Moseley says that about 1 in 15 or 20 of the natives of the Admiralty Islands have most remarkably long Jewish noses. At first he thought this peculiarity was caused to some extent by "long action of excessively heavy nose ornaments," but his opinion changed when he saw women without such ornaments and having well-marked arched noses with dependent tip.[7] The same feature is observable among the Fijians and New Caledonians, and in the New Hebrides.[8] Most probably it is due to the existence of a Semitic element among those peoples, and such an origin must, I think, also be ascribed

[1] Curiously enough, a similar remark has been made as to the Polynesian islanders. Dr. J. Barnard Davis mentions that Mr. Thomas P. Lawson, of Uahuga, ardently maintains that the Marquesan Islanders are the lost ten tribes, and that he was informed by the Rev. W. Wyatt Gill that, "all the elder missionaries who went out in the 'Duff' thought the Polynesians were the lost ten tribes" ("Thes. Cran.," Supplement, p. 80).

[2] "Voyage of H.M.S. 'Fly'" (1847), vol. ii, p. 236.

[3] "Contemporary Review" (1879).

[4] See Wallace's "Australasia," p. 453.

[5] *Op. cit.*, i, p. 259.

[6] *Ibid.*, ii, 368. Some of the Arab tribes are said, however, to have fine hair, somewhat crisped "and approaching the woolly hair of the Negro" (Prichard: "Phys. Res.," vol. iv, p 593).

[7] Journ. Anthrop. Inst.," vol. vi (1877), p. 386.

[8] Peschel: "The Races of Man," p. 339.

to the aquiline nose often seen among the Polynesians. Dr. Topinard remarks that the nose of the Polynesians more nearly approaches the American than the Mongolian type, by which he means, no doubt, the large prominent bridged or, according to Catlin, aquiline nose which is more frequent among the Americans than the small nose of the Mongol. The French anthropologist affirms that the characters presented by the North Americans are those of races which have crossed, one of the elements being clearly Asiatic, and the other altogether special—dolichocephaly, the European nose, &c.[1] We have here much the same phenomena as are presented by the Polynesians, whose peculiarities, as distinguished from the lighter-coloured Papûans, must be explained, apart from the Negrito element observable in the latter, by the presence of an Asiatic element, which has also influenced the Papûans to some extent, but not so profoundly.

The Asiatic race to which the physical peculiarities exhibited by the Polynesians are due can only be the Malayan, or at least the Mongoloid race whom the Malay represents in the Asiatic Archipelago. It is true that Mr. Keane speaks of the Polynesians and Malays as having in common only "one or two cranial features of no particular value as racial tests, at least when taken apart." As against this opinion we have, however, the authority of the Rev. Mr. Whitmee as to the close agreement of those races in many particulars;[2] we have, moreover, the facts, stated by Dr. Topinard, that the Polynesian type approaches the Malay, and that by its orbital index, as well as by its nasal index, it belongs to the same group as that of the Chinese, the Malay, and the Americans. Moreover, the sub-nasal prognathism of the Polynesian shows "the influence of the yellow and black populations with which he has been mingled."[3] We may see in the remarks of the French anthropologist a justification of the opinion that the Polynesians are not a pure race, and that if we were to subtract, on the one hand, the peculiarities to which they are indebted to the Malayan and Melanesian elements, and on the other the special features which the Papûans have obtained from the Negritos, and perhaps also from the Arabs, we should find the dark and the light peoples of the Pacific area to present much the same straight-haired, dolichocephalic type which, for want of a better term, we might call Austral-Caucasian.

[1] "Anthropology," pp. 470–481.

[2] See the "Contemporary Review" for February, 1873, p. 406. Mr. Ranken is of the same opinion, although he thinks the Polynesians are not really Malays, but allied to them as belonging to the Mongolian stock ("Journ. Anthrop. Inst.," vol. vi, p. 244).

[3] "Anthropology," p. 478.

Mr. McFarlane, after a five years' residence in South-eastern New Guinea, came to the conclusion that the coast tribes were a mixed race, consisting of Malays, Polynesians, Arabs, Chinese, and Papûans.[1] Possibly another people, who appear at one time to have exercised great influence in the Malayan Archipelago, may have affected both the dark and the light tribes of this area. Dr. Beccari believes that the Mafu Papûans are the result of an intermixture of Caucasian or Hindoo blood, which he supposes to exist also in the Galelo men of Gilolo. This island is very far from Bali, one of the Sunda Islands, where the people are divided into the four castes of ancient India, and the Hindoo religion still prevails.[2] But the Malays have reached much higher north than the Moluccas, and there is no reason why the Hindoos should not also have done so. It is possible that the Hindoos have contributed a much more important element than is generally supposed to the Caucasian population of the Eastern Islands.[3] Perhaps, however, we must look to the countries beyond the Ganges as the real source of the later Caucasian element, which appears to have spread from the continent over the Asiatic Archipelago. We are reminded of the Naga worship of those countries by the serpents and crocodiles sculptured on the temple at Dorey, which are supposed to represent such of the ancestors of the people as were descended from those animals.[4]

Nor does the fact of the average stature of the Polynesians being very high[5] and that of the Papûans, as given by Meyer, very low, affect the conclusion that those races belong to the same stock. The New Caledonians and the Fijians are above the middle height, and that they need not be indebted for their high stature to the Polynesians is evident from the fact that the average stature of the Australians given by Dr. Topinard is very high. As stated by the French anthropologist, the Australians are divided into two races, the one short and the other tall.[6] The former is that which would be identified with the Negrito race, and it is to this race the small stature of some of the tribes of New Guinea must be ascribed. Mr. Earl affirmed that "on the south-west coast of New Guinea, within the space of a hundred miles, are to be found tribes whose general stature is at least equal to that of the finer races of

[1] "Australasia," p. 454.

[2] *Ibid.*, pp. 453, 421.

[3] Traces of Hindoo influence have been met with in South-east Borneo, including inscribed tombstones ("The Head Hunters of Borneo," by Carl Bock, p. 47).

[4] D'Estrey: "La Papouasie," p. 132.

[5] Dr. Topinard gives it as 1·762 mètre, equal to about 5 ft. 9 in. English.

[6] "Anthropology," p. 322.

Europeans, and others whose proportions are so small as almost to entitle them to the appellation of pigmies."[1] The latter are found only among the mountain tribes, and we may expect the Negrito element to be more influential with them than with the taller Papûans of the coast. Signor D'Albertis' observations would seem to agree with those of Mr. Earl. He describes the natives of Moatta, near the Fly River, as being of lofty stature, the women especially being tall and robust,[2] and even the Arfaks, or mountaineers near Port Dorey in the north-west, are said to be of tall stature.[3] The Italian traveller states, moreover, that the light-coloured Papûans are not generally inferior in stature to the black race,[4] which would seem to imply that the former are not always so tall as the latter.[5] That the Caucasian race of the Malay Archipelago is not always of high stature is shown by reference to the Mentawey Islanders. These people are described by Mr. Crisp in the "Asiatic Researches" as seldom exceeding 5½ feet, and many of them as falling short of this height.[6] The light-coloured natives of Northern Celebes, who are said to resemble the Polynesians in feature, differ from them nevertheless in being of only moderate stature.[7]

The conclusions to which I have been led by a consideration of the preceding facts are as follows:—

1. The Eastern Archipelago was at a very early period inhabited by a straight-haired race belonging to the so-called Caucasian stock, the purest modern representatives of which are the Australians.
2. To this race belonged also ancestors of all the Oceanic races—including the Papûans, the Micronesians, the Tasmanians, and the Polynesians—as shown by their common possession of certain physical characters.
3. The special peculiarities of the several dark races are due to the introduction of various foreign elements, the Negritos having influenced all of them in varying degrees.
4. The lighter Oceanic races show traces of the Negrito influence, but they have been affected at various periods by intermixture with peoples from the Asiatic area, giving rise on the one hand to the so-called

[1] "Papûans," p. 4.
[2] "New Guinea," vol ii, p. 11.
[3] *Ibid.*, vol. i, p. 317.
[4] *Ibid.*, p. 411.
[5] Mr. Stone states that the Motu are an inch taller than the Papûan Koiari, whose average height (men) was 5 ft. 3 in., but the Ilema, who appear to combine several characteristics of both the light and the dark tribes (p. 205), were 2½ inches taller. ("A few Months in New Guinea," p. 165.)
[6] Vol. vi (1801), p. 83.
[7] See "Australasia," p. 387.

"savage Malay," and on the other to the Polynesians, who have been specially affected by the Malays.

5. Traces of an Arab or Semitic element are apparent among both the dark and the light Oceanic races, but chiefly among the Papûans and the Melanesians, the former of whom may also possibly possess a Hindoo admixture.

These conclusions probably require, as Mr. Keane supposes, the Negrito to have been the earliest inhabitant of the Eastern Archipelago, but there is less truth in Mr. Keane's further supposition that this primitive race, spreading north over the Asiatic continent, "became under more temperate climes differentiated first, probably, into the yellow Mongol and then through it into the fair Caucasian type," returning in subsequent ages to its original home as Malays and Polynesians. According to my view, the Austral-Caucasian stock occupied the Eastern Archipelago at a much more remote period than Mr. Keane's theory would allow, at an early date, however, to be modified by intermixture with the Negritos, and at a comparatively recent period to be still further modified by the introduction of the Malay element so as to produce the light races of that area.

I have purposely abstained from criticising Mr. Keane's views as to the absence of relationship between the Papûan and the Polynesian languages. In conclusion, however, I would refer to the opinion expressed by the Rev. S. J. Whitmee that not only are the whole of the Malayo-Polynesian languages, together with those of the Indian Archipelago and the Malagasy, more or less changed branches from an original root-stock, of which the Malay is more changed than any of the others, but that first the Papûan languages, and then the Australian, must be affiliated to the same stock, the original form of which they approach still nearer to than either the Malay or the Polynesian branches. This opinion, which agrees with that of other competent authorities, coincides with my theory, and it would be no less strongly supported by a consideration of the manners and culture of the Oceanic races.

Discussion.

Mr. Keane remarked that although the relations of the Oceanic races had been constantly before the Institute for several years past, it was to be feared that little progress had been made towards a settlement of the various points at issue. Nor did the question seem to be much furthered by the paper just read, which might be

regarded as an attempt to revise the paradoxical views first advanced some years ago by Mr. A. R. Wallace, but subsequently abandoned, or at least greatly modified, by that distinguished naturalist. This attempted revival of theories almost unanimously rejected by sound anthropologists was much to be regretted in the true interest of science, but could not perhaps excite surprise when taken in connection with previous essays by the author in the same field of inquiry. His views regarding the affinities of the Papûan and brown Polynesian races must, however, be regarded as even more unhappy than his extravagant notions touching the affinities of the Malagasy people, first with the African negroes, and then with the Siamese of Further India. Mr. Keane could not, of course, expect his own views to receive much consideration at the hands of such a writer. But he did expect that they would at least be fairly stated. Unfortunately, in the paper just read they had been mostly misunderstood, while the facts and arguments advanced in their support had been rather slurred over than seriously dealt with. There was, however, no need to waste the time of the Institute with a re-statement of the case from his point of view, as it had already been fully placed before the public in an accessible form. A reference to his "Monograph on the Indo-Chinese and Oceanic races" would show that, whatever value might be attached to his conclusions, they were not based, as asserted by Mr. Wake, merely on one or two secondary features, such as colour, or even language alone. Full consideration had, on the contrary, been given to the anatomical structure, and to all the outward physical features, as well as to the linguistic element, in the various races, whose affinities he had attempted to establish. His scheme might, of course, be rejected, and could, in the present state of these studies, make no claim to finality. The apparent dogmatism with which it was put forward was due rather to the necessity of formulating his views in precise language, than to any obstinate belief in their infallibility. But although all such essays must for a long time continue to partake more or less of a tentative character, one negative conclusion he did consider as settled and tacitly accepted by science. That conclusion met the title of Mr. Wake's paper by a direct negative, holding that, whatever might be their relationship to other stocks, the dark, frizzly-haired, hook-nosed, hypsistenocephalic Papûans of fully developed agglutinating speech had no perceptible affinity, beyond their common manhood, to the tall, brown, somewhat lank-haired, straight-nosed, brachycephalic Eastern Polynesians of almost isolating, or very faintly developed agglutinating speech. The linguistic element, treated vicariously if not altogether ignored by Mr. Wake, possessed in this area quite an exceptional importance. Hence it could not be too widely known that, after further research, Von der Gabelentz had abandoned his former views, and now held that the Papûan and Polynesian languages, like the races, were fundamentally distinct. In this conclusion Dr. A. B. Meyer acquiesced, and there could be little doubt that on re-consideration, Mr. Codrington would agree with

Mr. Whitmee that the two forms of speech had nothing in common beyond superficial resemblances, or what might be due to mutual borrowings. This factor must therefore be taken into account and seriously dealt with by those ethnographists who may still be disposed to group the Papûans and Polynesians in the same division of the human family.

Mr. WAKE stated, in reply, that he had limited himself to a consideration of physical characters, as the time at his disposal would not allow the question of language to be then properly treated. He did not think his arguments were affected by what Mr. Keane had said; and he suggested that if the Melanesians had, as Mr. Keane seemed to suppose, taken their language from the Polynesians, the latter may have been indebted to another race for their language. He referred to a paper recently read before the Académie des Inscriptions, by M. Aymonier (*see* the "Academy," January 7, 1882, p. 14), who stated that the people known as Ciam were the dominant race throughout the peninsula of Further India before the invasion of the Khmêrs of Cambodia, and of the present inhabitants of Annam, and that they received their culture from India in the first century A.D. The Ciam, who are still found everywhere in scattered communities, have three dialects or languages: (1) the *dalil*, or sacred language; (2) the *ciam*, or the vernacular proper; (3) the *bani*, a Muhammadan dialect, which has now superseded the other two.

The following paper was read by the author, and illustrated by a large series of photographs, &c.:—

On SOME RITES *and* CUSTOMS *of* OLD JAPAN.

By C. PFOUNDES, Esq.
F.R.G.S., M.A.I., M.R. Asiatic Society.

[*Abstract.*]

THE anthropological student may find in the traditions and observances of the Japanese innumerable interesting details.

Human sacrifice appears to have been practised, and, if we may judge by the numerous legends handed down, was not entirely suppressed until long after the period when clay images were introduced as a substitute.

One of the earliest poems is attributed to the lover who rescued a maiden from being sacrificed to the "Dragon of the Mountains;" and a similar legend of later date includes a "dog" as assisting in the rescue.[1]

[1] See "Folk Lore Record," vol. i: 'Some Japan Folk Tales,' by C. Pfoundes; and Sir E. Reed's work, p. 63, vol. ii.

Marriages are by the Japanese said to be made in Heaven, and that the myriad of divine spirits that guard the Japanese assemble annually to assort the aspirants to matrimony.[1]

Immolation of the followers of great personages appears to have been observed, and was called "following the dead" (*Jun shi*).[2]

One of the ancient wrestlers (or gladiators, as they really were in those days) distinguished himself, and gained the favour of the Emperor; he turned his influence to good account, and succeeded in having clay images introduced as a substitute (about A.D. 3).

Self-sacrifice of another kind was not unknown. A notable instance is recorded as occurring in the second century A.D., when *Tatchibana Hime* threw herself into the waves to appease the demon of the storm, and save her lord and master and his followers, when on an expedition against the revolted aborigines of the north-eastern provinces.

Numerous legends of visits to the depths of the ocean, of fabulous and miraculous incidents in war and love-making, embalm curious traces of strange and highly interesting customs in Old Japan. Buddhism brought with it a great deal of Indian and other continental observances, and stories of superhuman agencies.

Many customs and observances are local, but those most commonly practised by the people of the metropolitan districts (Yedo, now called Tokio) are more or less generally observed.

At an early period of gestation, an auspicious day is found by the astrologer or local soothsayer, and a feast is arranged, and the abdomen of women about to become mothers is tightly engirdled with a broad bandage, dyed pink. Although every gentleman and gentlewoman of Old Japan had each their own separate apartments, &c., the separation was more strictly observed after the pink girdle was adopted. When the time of travail arrived, the usual course was to place the mother seated in the peculiar Japanese posture, with the lower extremities doubled under, not cross-legged, a bag of rice under each arm, and another at the back, with a litter of straw underneath; hence a Japanese proverb similar to our own vulgar saying of a "woman being in the straw."

The disposal of the placenta is a matter of some importance to avert misfortune from mother or child; then the infant is not allowed the breast for nearly three days, and is dosed often with the horrible decoction used for staining the teeth, composed of water that had become putrid in an old teapot in which were contained a quantity of old rusty nails.

[1] See "Fu-so Mimi Bukuro," 'A Budget of Japanese Notes,' by C. Pfoundes.
[2] Confucius denounced a similar custom ("Fu-so Mimi Bukuro," p. 96.)

The third day of the third lunar month is the great annual girls' festival, whilst the fifth day of the fifth month is the boys' holiday, and these form two of the nine great annual festivals. Ceremonial and complimentary visits, congratulatory temple to feasts, visits to local and other shrines, the family calls and pay reverence to the manes of ancestors, or to the graves, are also conducted at stated periods, and with much ceremony.

The naming of the infant is a matter of importance, and there are strictly prescribed rules.

The tonsure, or shaving of the infant's head, male or female, is also a matter of strictly-adhered-to observance at several periods, as also the sumptuary laws of breeching the boy, and encircling the girl with the broad girdle.

If there is a numerous progeny, the surplus children are moved off into other families; if girls abound, and there is no male heir, a boy is adopted to become the husband of a daughter; or in case of there being no issue, a boy is adopted, and then a girl from a suitable family taken to be his wife in good time.

The sons of the tradesmen often travel about seeking work, and see the world; the young gentlemen also travelled to learn, and visited celebrated fencing-masters or classical scholars, becoming pupils for a period.

Runaway matches are by the Japanese said to be rarely happy; nor is intermarriage between near relatives deemed expedient; the children, it is believed, will be sickly and both physically and mentally feeble, whilst their offspring will be most likely to be even more so. There is a curious exception to this.

The birth of twins of opposite sex is not of frequent occurrence, but it is not considered wise to separate them throughout life. These marriages rarely result in issue, it is said by native authorities.

There is a very simple expedient adopted by the "lying-in nurse" of Old Japan; if a child of peculiarly striking deformity or malformation is born, a sheet of soft wet paper placed over the infant's nostrils and mouth speedily settles the matter quietly and finally.

When the succession is settled, and the future head of the family becomes competent to take an active part in the affairs of life, the elders retire gradually into privacy, quietly guiding with their matured advice the conduct of official or trading business, and devoting the ample leisure thus insured them to cultivating literary or artistic tastes.

As death approaches, the fear of an unknown hereafter arouses them to piety and "good works,"—repairing shrines,

decorating the graveyards of ancestors, or the memorial tablets in the temple, in charity pilgrimages, &c.

The funeral rites and customs attending death vary considerably according to the social position of the deceased, and the sect of Buddhists to which he belonged. Those for the observers of "Pure Shinto," untainted with Buddhism, again, differ altogether from the former. An account of these is therefore reserved for a future occasion.

Some funerals were conducted with privacy and an absence of ostentatious display.

Poor people bury their dead at night to hide their poverty.

Cremation was only practised by certain sects of Buddhists, but it has extended greatly of recent years, although the non-Buddhistic class are not in favour of this practice—in fact, recently for a time succeeded in having it prohibited; but the subject was taken up abroad, and the travelled Japanese succeeded in having the edict repealed.

The coffin is not always burned, and even for the poorer class there was no separate cremation furnace. A long pile of wood, with the bodies laid on it in a row, answered the purpose, the relatives keeping watch, and sometimes quarrelling over the remains for their possession.

Small jars, 6 to 12 inches, of unglazed ware were used to contain the ashes, which were gathered with one wooden and one bamboo stick, forming simple tongs.[1]

The subdivision of the ashes was not uncommon, as by intermarriage relatives would belong to various sects, and have those who had gone before buried elsewhere, and it was to be desired that at least some portion of the ashes should be buried with their forefathers. Those who could send the ashes, or a portion, to the Mecca of Japan, or to the locality of some celebrated shrine or temple, often did so. The temple of Kobodai shi, in Koya San Kishin, is a favourite repository for these.

The periods of mourning vary, but for parents fifty days is observed; business is neglected, the razor not used, and a vegetable diet only of the sparest kind partaken of, daily visits to the grave and temple, with prayers at home, occupying the time. Other temples or shrines must not be visited, as relatives of the dead are "unclean" for one year.

Brothers and sisters, husbands and wives, uncles and aunts, and the first-born children call for twenty days' mourning, and are for ninety days unclean; other relatives ten to three days, and

[1] Chopsticks of two different kinds of material would not therefore be used with food. Nor would hot and cold water be mixed, as used for the washing of the dead, by pouring hot water into cold.

impure from four to seven days, according to the degree of consanguinity; for children under seven, one day only is observed.

Suicide is not so common in Japan as in some other countries, for many of the causes that prompt suicide elsewhere do not bring pressure to bear upon the Japanese.

Disappointed women, but oftener jealous women, commit suicide; shame rarely prompts the deed as with us.[1] The Japanese prefer to drown themselves in a river, or even in a deep well, filling the long loose sleeves with stones to sink them; lovers' quarrels, or the fading of personal charms, is not an uncommon motive. Two lovers will even die in each other's arms, with a girdle, usually the girl's, tied round them both. Men deeply in debt sometimes drown themselves.

Hanging is less resorted to by women than by men. There are trees in Japan that have an evil repute, where men have hung themselves, it being believed the trees are possessed with a vampire-like demon or spirit, and magic powers of fascination.

A man and woman agreed to hang themselves by the same rope thrown over a tree; his weight carried her up, and he reached the ground uninjured; thinking better of it, he untied himself and ran away, but was surprised to meet the very next day the woman, who had also when released changed her mind and decided to live a little longer.

Women, again, frequently cut their throats or injure themselves so as to bleed to death; men rarely commit suicide in this manner.

Suicide by poison or by firearms is not common.

The notorious happy despatch is an exception, as cutting the throat, as well as ripping the abdomen, is part of this ceremony.

The official abdomen ripping is not recorded earlier than the twelfth century, and it was in the sixteenth or seventeenth century that it became regulated, and the ceremonial a strictly official matter.

Few instances are on record of a woman attempting this method: it was only in the rare case of an Amazon-like native.

In the wedding outfit of the brides of the nobles a couple of poisonous beetles (male and female), placed in a lacquer box, formed part of the trousseau; these were for the wife to swallow, either to save her honour, or to expiate her unfaithfulness.

[1] Fathers rarely desert their offspring or the mothers of their children, as is too often done in "Christian" lands nearer home.

Discussion.

Miss Buckland wished to know whether Mr. Pfoundes had noticed among the Japanese or Ainos any trace of the use of white paint on the face by way of mourning. She observed that the custom of painting the face with streaks or patches of white for mourning exists, as is well known, in the Andaman Islands and in Australia, and her attention had lately been called to the prevalence of the same custom among a tribe in California, the paint in the latter case being composed of the ashes of the deceased. It would seem possible that the custom might have been conveyed through Japan, although the masks exhibited by General Pitt Rivers from the South Sea Islands, most of which had streaks of white paint round the forehead or on the cheeks, seemed to show some traces of its use there also, as probably these masks were associated with religious and funeral rites

A Japanese Gentleman also added some interesting particulars confirming the lecturer's statements, especially about human sacrifice, stating that an arrow was placed in the roof of the hut of the intended victim as a token or warning; also that Chinese classics taught gentlemen to control their countenances with dignified and calm exterior.

Signor Pagliardini, Mr. Highton, Mons. Bertin, and the President also took part in the discussion.

Mr. Pfoundes, in reply to a question of the President with regard to the absence of nobility of expression in the Japanese portraiture, said that this arose from the conventionality of that branch of art in Japan. The nobility of feeling and thought and action existed to a remarkable degree, together with great culture and a high degree of intellectual and artistic intelligence and refinement. Confucius condemned human sacrifice, and it was only just before our era that a great champion wrestler was rewarded by the Emperor with an hereditary title for his efforts to substitute clay images for human beings at burials.[1] With regard to Miss Buckland's question, the author said he could not call to mind any details as to painting the face of the mourners; the females, he thought, on the contrary, did not use white powder when in mourning. In putting forward the crude results of his searches in out-of-the-way corners, he did so hoping to incite others to follow up these interesting subjects, more especially that he no longer had the opportunity to increase his own store of curious and interesting particulars about old Japanese rites and customs.

[1] *Vide* "Masonic Monthly," Sept., 1882, and "F. M. B.," p. 155.

APRIL 25TH, 1882.

HYDE CLARKE, Esq., *Vice-President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From the SECRETARY OF STATE FOR INDIA IN COUNCIL.—Punjab Customary Law, by C. L. Tupper, C.S.
From the AUTHOR.—Etnologia Bolognese, by A. Rubbiani.
From the MUSEUM.—Bulletin of the American Museum of Natural History. No. 1.
From the ACADEMY.—Atti della R. Accademia dei Lincei. Vol. VI, Fas. 9.
From the ASSOCIATION.—Transactions of the National Association for the Promotion of Social Science. Dublin, 1881.
From the SOCIETY.—Bulletin de la Société de Borda à Dax. 1882. No. 1.
—— Journal of the Society of Arts, Nos. 1533–35.
—— Transactions of the Royal Society of Edinburgh. Vol. XXX, Part 1.
—— Proceedings of the Royal Society of Edinburgh. Session 1880–81.
—— Journal of the North China Branch of the Royal Asiatic Society. Vol. XVI, Part 1.
—— Journal of the Royal Asiatic Society. Vol. XIV, Part 2.
—— Royal Asiatic Society, Ceylon Branch. Proceedings, 1881.
—— Proceedings of the Asiatic Society of Bengal. January, 1882.
From the EDITOR.—Revue Scientifique. Tom. XXIX, Nos. 14–16.
—— "Nature." Nos. 649–651.
—— Bulletino di Paletnologia Italiana. 1882. Nos. 1–3, and Index.
—— Correspondenz-Blatt. April, 1882.
—— Revue d'Anthropologie. April, 1882.
—— American Antiquarian. Vol. IV, No. 2.
—— Revue d'Ethnographie. Tom. I, No. 1.

It was announced that ALFRED MORRISON, Esq., F.R.G.S., and FREDERICK HAROLD, Esq., had been elected Members of the Institute.

Mr. E. H. MAN read the second part of his paper "On the Aboriginal Inhabitants of the Andaman Islands," which is printed at p. 117, *et seq.*

THE DEATH OF MR. DARWIN.

Mr. HYDE CLARKE said that in the absence of the President, from indisposition, he had to comply with the instructions of the Council with regard to the death of him whose memory was present in the minds of all. The Council had that day passed a vote of sympathy with the Darwin family, and named a deputation of the Past Presidents, Vice-Presidents, and other officers of the Society to attend the funeral on the morrow in Westminster Abbey. Charles Darwin was connected with them by more than one tie. He had been elected an Honorary Member of the older Society, the Ethnological, then of the Anthropological Society, and on the fusion of the two he became in due course an Honorary Member of the Anthropological Institute. He (Mr. Clarke) could look back with some others to the old epoch of the Ethnological Society, when anthropology was a recognised science, in virtue of which that society existed; but a new era undoubtedly began in the advance instituted by their honoured members—Charles Darwin and Alfred Russell Wallace. It was true that Darwin had popularised their science, but he had done very much more in making an impression on the thought of the world more marked than had been effected by any other man in his own lifetime. Of those labours of Darwin it was not necessary for him there to speak, for they were familiar to all present. Darwin had not contributed papers to their memoirs, for the works in which the results of his investigations were consecrated made claim enough on his time. He was, however, ever ready to give them the benefit of his counsel, as he (the speaker) remembered when the friends and associates of Darwin on the Council of the Ethnological Society—Sir John Lubbock, Professor Huxley, Sir Joseph Hooker, and others, claimed his aid in our behalf. In discharging the formal duty imposed on him, he was glad that Professor Flower was present to support what he had said, or rather to supply what he had omitted.

Professor FLOWER could not allow the opportunity to pass without stating how fully he sympathised with all that the Chairman had said about Mr. Darwin's work, and without adding a few words in reference to Mr. Darwin's character. To the value of the first the unanimous testimony of the civilised world had been abundantly given in the numerous notices that had appeared since his death. The latter, although it shone through every line that he wrote—so simple, so transparent and truthful he was in all he did—only those who had the great privilege of his personal friendship could fully estimate. It was, however, as much his worth as a man as his greatness as a philosopher that had called forth the expressions of homage now paid to him by persons of all parties and all creeds, and had procured for him the honour, so rarely accorded hitherto to men of science, of a funeral among the most illustrious of our countrymen, in our venerable Abbey.

MAY 9TH, 1882.

Major-General PITT RIVERS, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors :—

FOR THE LIBRARY.

From the AUTHOR.—Die Südafrikanische Vogelwelt. By Dr. Emil Holub.
—— Alcohol: a Factor in Human Progress. By W. Sharpe, M.D.
—— On the Origins of Caste and Tribal Names, and the Practical Value of Ascertaining Them. By Lieut. R. C. Temple.
From the GEOLOGICAL SURVEY OF CANADA.—Report of Progress for 1879-80, with Maps.
From the SOCIÉTÉ IMPÉRIALE DES AMIS D'HISTOIRE NATURELLE, MOSCOU.—Transactions, Tom. XXXVII, liv. 1; Supplément No. 2; Tom. XLI, liv. 1; Tom. XLII.
From the BERLIN ANTHROPOLOGICAL SOCIETY.—Zeitschrift für Ethnologie, 1881, Heft 6; 1882, Heft 1.
From the SOCIETY.—Transactions of the Geological Society of Glasgow. Vol. VI, Part 2.
—— Boletim da Sociedade de Geographia de Lisboa. 2ª Ser. Nos. 9, 10.
—— Proceedings of the Royal Geographical Society. Vol. IV, No. 5, May, 1882.
—— Journal of the Society of Arts. Nos. 1536, 1537.
From the ACADEMY.—Atti della R. Accademia dei Lincei. Vol. VI, Fas. 10.
From the ASSOCIATION.—Report of the Fifty-first Meeting of the British Association, held at York in August and September, 1881.
From the EDITOR.—"Nature." Nos. 652, 653.
—— Revue Scientifique. Tom. XXIX, Nos. 17, 18.

The election of HENRY LING ROTH, Esq., was announced.

Mr. G. M. ATKINSON exhibited, on behalf of Mr. Lambton Young, a Palæolithic flint implement from the bed of the Thames; and, on behalf of Mr. A. G. Geoghegan, an ancient jet ornament from Garvagh, Co. Londonderry.

Mr. WORTHINGTON G. SMITH exhibited a palæolithic implement found by himself in an excavation for a new house on Battersea Rise, near Clapham Common, on one of the higher

terraces of the Thames. He expressed his belief that the few implements found in the Thames had been washed down from the high terraces, either north or south of the river, where implements are very frequent.

Mr. SMITH also exhibited some large and heavy implements from Broom, Bedford, Southampton, and Mildenhall, the largest being $9\frac{3}{4}$ inches long, and the heaviest more than 3 lbs. in weight. He likewise exhibited a drawing of a very large and rude implement found by Miss E. A. Ormerod in gravel thrown out from the new railway cutting at Isleworth: the implement, which was a large natural club-shaped block of flint, was artificially pointed and slightly trimmed to shape; it measured 2 feet in length, and weighed 32 lbs.

The following paper was read by the author:—

ENGLISH SURNAMES, *from an* ETHNOLOGICAL *point of view.*

By DR. BEDDOE, F.R.S.

WHILE following up the subject of the decay of the old Germanic (Reihengraber) type in the German land, I conceived the idea that some indirect light might be thrown upon it by an examination of the admixture of races and classes in England, as shown by the existing surnames.

I therefore examined, in a cursory way, and trusting to my own very moderate knowledge of English surnames, the several lists and documents, an analysis of which is appended to this paper.

The headings of the tables are as follows:—1st, The Peerage of England; 2nd, the Baronets of England; 3rd, the list of county magistrates for Gloucestershire, Herefordshire, and part of North Somerset; 4th, those Members of Parliament who sit for English seats; 5th, the Fellows of the Royal Society; 6th, the Fellows of the R. College of Physicians (these two may represent the *élite* of certain scientific and professional classes); 7th, the members of the University Club, London, as a sample of the upper middle class of England, and chiefly of the metropolis; 8th, the mayors of all the English and Welsh corporations, for two years, deducting re-elected mayors, with the addition of the 26 aldermen of London—these make up exactly 500, and represent chiefly the higher commercial class; 9th, the K.C.B.'s and K.C.M.G.'s; 10th, the Q.C.'s and Sergeants-at-Law; 11th, the subscribers to a Yorkshire book, chiefly from the West Riding.

I have also a series of lists from Bristol. The subscribers to

the Museum represent the upper class of citizens and residents, and the merchants, the lower class of tradesmen; the native in- and out-patients of the Infirmary, make up a kind of social scale of Bristolians. The offenders against Martin's Act are almost all carters or rural labourers, and may represent that class, whose names are hardly to be found in any other accessible list.

There are three lists of farmers: from Eastern and Central Herefordshire, from East Gloucestershire, and from the parts of Gloucestershire and Somerset around Bristol. With these may be compared the list of tenants of Malmesbury Abbey, dating from about A.D. 1300, and nearly corresponding in locality and quality.

The last series, scarcely comparable with the rest, consists of lists of the Society of Friends from several districts, pretty well scattered over the country.

It may be as well to explain also the way in which I have classified the surnames.

My method became less imperfect as the work proceeded.

My first Norman class contains only historical names, or such as are known to me to be traceable up to or nearly up to the Conquest, as Percy, Malet, Tyson. The second Norman class contains names of old French form, and patronymics derived from names which did not take root strongly among the English, as Molyneux, Russell, Payne, Drew, Pullen.

My first Saxon class includes most of those ending in ING, the bearers of which are probably lineal descendants of the Saxon aristocracy, whose clan names, though not appearing in Domesday or in charters, were handed down among themselves, and finally, in many instances, become fixed as surnames. Such are Mainwaring (the descendant of the dwellers in Meon, the Jutes[1]), Skelding, Skirving, Billing. The second class includes such Saxon or Danish patronymics as Godwin, Lewin, Alderson, Tovey.

The great local class I have also subdivided. Its first and principal section includes most of the names of specific localities, as Pakington, Hartley, Mytholmroyd, the majority of which names probably belonged to the owners or tenants of the places indicated, though many were assumed to denote the places whence their bearers came. The second class contains all generic local names, as Hill, Attwood, Slade: these must have been borne originally by the smaller tenants or landholders. With them I have placed also such names as Wiltshire, Oxenford, which we know cannot have been acquired by ownership,

[1] This is an enticing etymology; but the name is usually supposed to be derived from Mesnil-garin, in Normandy.

and which probably belonged to a low, rather than a high, class of the community.

In most cases I have separated, as a third local class, such names as Burgoyne, Fleming, Picard, Maine, Brittan, Norris, which indicate the country of origin of the first bearer.

Names of trade or calling are difficult to classify. I have separated those of ordinary arts and trades, as Taylor, Walker, Lister, from those which are semi-personal, qualifying, or descriptive, as Palmer, Franklin, Clerk. With these last I have placed, with some doubt, Frere, Abbot, &c., which may in some cases have been nicknames, but probably indicated as a rule illegitimate descent from the persons pointed at. Sometimes I have made a third class of distinctly rural occupations, as Fisher, Fowler, Hayward, Miller.

Nicknames, or personal names, as Reid, Blackmore, Whitehead, require no subdivision.

From the great crowd of patronymics I have usually separated those ending in SON, which originated in the northern part of the kingdom, for reasons which will subsequently appear.

My *doubtful Welsh* class includes such names as Roberts or Robartes, and Richards, of which the usual English forms would be Robins, Robinson, Dobbs, Dixon, and the like. They are not invariably Welsh, but their comparative rarity away from Wales and the Marches shows that they are usually so.

The undoubtedly Welsh class, including Jones, Pugh, Rees, Vaughan, Bengough, &c., needs no comment.

In the Scotch class I have placed all those names whose owners have at any period belonged exclusively to Scotland. Thus all the Montgomeries in the three kingdoms descend from that branch of the famous Norman race which settled in Scotland; and to Scotland I have assigned them. So with the Hamiltons, Gordons, Barclays. The adoption of this rule leads to scarcely any ambiguity or difficulty: it leaves comparatively few surnames common to England and Scotland, except certain trade names and nicknames and some of the commoner patronymics in SON, such as Wilson and Watson.

But the same rule could not be applied to Ireland, where the greater part of the surnames of English form are of comparatively recent introduction, and not to be distinguished from those which have always remained English. I have therefore put the Fitzgeralds, Barrys, Burkes, &c., among my Normans, and distributed the mass of Irish names of English form under the several heads appropriate to them. And I have left in my Irish class only the surnames actually coined in Ireland, the O's and Macs, Kavanaghs, Ryans, Dalys, and the like, which belong, roughly speaking, to the Celtic race.

My Foreign class includes all those supposed to have been introduced from abroad during the last two or three centuries: Huguenot, Palatine, French of the Channel Isles, Dutch, Italian, Jewish, &c.

After all I am constrained to leave a great many names, on an average about 9 per cent., in the doubtful class. This includes, no doubt, a good many patronymics and nicknames, as well as corrupted specimens of all the other classes, particularly the foreign one. The author of "The Norman People" would ascribe a great many of them to the Norman category, and I do not doubt that he is right in many instances, but I am unable to test his methods sufficiently. I am, however, much indebted to his book, as well as to those of Lower, Bardsley, and Miss Yonge.

The number of these doubtful names is of course a rough index of the imperfection of the method, at least in my hands. A good many of the names which I *have* made bold to classify are not free from ambiguity of meaning or origin. *Hall* I have assigned to my second local class. But it may in some instances have been derived from the common Norse name, or be a short form of Henry, or of Halbert. *Wood* probably does not always mean an assemblage of trees; sometimes it is a personal name, signifying mad or wrathful. *Peacock* may be a nickname or a patronymic: I have set it down as the latter. A good many of the apparently local names may be corruptions of words less familiar.

One source of fallacy, but not, I think, an important one, is the tendency to get rid of names supposed objectionable by exchanging them for better sounding or more fashionable ones. Thus Jones has actually been exchanged for Herbert, and Bugg, it has been said, for Norfolk Howard. It is a little curious that the name here selected as the type of high aristocratic standing, is by some authorities derived from Hog-ward, a swineherd. For myself I incline, with Mr. Bardsley, to trace it rather to Hereward or Havard, and rank it with the old Saxon names.

This kind of change has been pretty frequent among the nobility and propertied classes, but not elsewhere. Where property has been in question, the changes have been by no means always in the direction of what we should call the better, the more ancient or more distinguished name. Thus Whitmore and Havelock have been substituted by Jones and Allan. In classifying the peerage I have always taken the original surname of the male line, where it was known to me. As I have said, such changes are not very common in the middle and lower classes. Were it otherwise, such names as Craven (local), and Coward (cowherd) would hardly have been saved by their really innocent derivations from extinction.

The variously selected names applied to bastards and foundlings furnish another complication; but they are probably not numerous. Actors do not, as a rule, transmit their high-sounding assumed names.

In examining my tables, I notice first the large proportion of undoubtedly Norman names still remaining among the Peers. The Peerage also includes a very large proportion of local names of the first class, though not quite so great as the Baronets and county magistrates do. The number of trade names is small, that of nicknames and patronymics moderate, of Scotch names very great, of Welsh ones fair. Nearly the same remarks apply to the Baronets; many of their creations date back to a period when recognisable Norman names were less diffused than now, and they show a larger proportion of them than any other list except that of Members of Parliament. These last, whom I had taken as representative of the monied classes, show their heterogeneous character in their names: the large proportion of Norman ones is due chiefly to the presence of so many scions of noble houses; trade names are fairly represented; Scotchmen and Jews are numerous; Irishmen almost absent. Among the county magistrates the presence of a large proportion of Saxon names is perhaps significant, taken in connection with their yet more frequent existence among the farmers. But it may be a local peculiarity.

The Royal Society and the College of Physicians differ little from the other middle class lists; they have fewer trade names, however, a good many Scotch and foreign names, a few Irish, and a moderate number of Welsh ones.

The list of Mayors of Boroughs has some interest. It probably represents pretty fairly the upper middle class of the towns of England generally. The notable points about it are the great number of patronymics in SON, derived originally, if not immediately, from the north of England, the much greater number of Welsh than of Scotch names, and the almost entire absence of Irish ones.

The subscribers to the Bristol Museum and Library indicate the considerable proportion of the commercial classes among them by a moderate decrease of local names and a slight increase of trade names. Welsh names, as in other Bristol lists, exceed 10 per cent.

The lists of farmers exhibit, contrary to what I expected, large proportions of trade names; and this is especially the case in East Gloucestershire, far away from any town which is, or has at any time, been large and important. There are in that part of the county, it is true, several small decayed market towns, whose population may have dispersed somewhat into their rural

neighbourhoods, but this supposition seems hardly sufficient to account for so great an excess of trade names. The list of the tenants of Malmesbury Abbey may perhaps further lessen this difficulty. It shows that in a rural district like North Wiltshire, trade surnames were already common in the time of Edward the First or Second. Perhaps, after all, they would be more distinctive in such a district than in a town of some size, where there were many of the same trade, and may actually have been less frequently coined where the occasion for doing so was apparently most frequent. The other peculiarities of the Malmesbury list are mostly reproduced among the farmers of the present day: such are the frequency of Saxon surnames, and of the second class of local ones. Returning to East Gloucestershire, purely rural trade names, it may be noted, are in large proportion. So too, are the names which I consider to be Saxon, and to have belonged to some of the relics of the Saxon aristocracy who survived the Conquest. Kemble, I think, remarks somewhere that the Saxon Christian names which long survived the Conquest belonged to the upper class. Welsh names are numerous among the farmers, in Upper Gloucestershire as well as around Bristol. Scotch and Irish names, and patronymics in SON, are very few.

Of the small traders of Bristol, and the Infirmary patients there, it may be said that among them the minimum of first class local names is attained. Trade names are numerous among them, but they differ from the farmers in the other points mentioned above. It is noteworthy that foreign and Scotch names are more numerous among the traders, Irish ones in the Infirmary list.

The paucity of Irish names in most of the lists is very striking. Probably a tenth of the inhabitants of the British Isles bear names of Celtic-Irish type, about as many as can be identified by name as Scotch, and perhaps almost thrice as many as are clearly Welsh by name. Yet Scotch and Welsh names greatly preponderate over Irish ones in almost all the lists, except in the Infirmary ones. Notwithstanding the vast Irish immigration into Great Britain of the present century, there has as yet been very little mixture of Irish with English or Scottish blood, and scarcely any rise of the Irish element in the scale of society.

In my Yorkshire list the notable points are the large number of patronymics in SON (while other patronymics are few), and the enormous number of local names, amounting altogether to 40 per cent; this latter peculiarity is probably due to the fact that Yorkshire, about the period of the assumption of surnames, had a scanty and sparse population.

The Quaker lists, in conjunction with some of the others, may help us to appreciate the extent of Welsh and Scotch immigration as well as the rate of mixture of social strata. The society was originally recruited, I believe, mainly from the middle and lower middle classes, and the surnames agree with this idea. Local names are not prevalent among them, while patronymics abound to an extraordinary degree, particularly those in SON. The number drawn from the Celtic nationalities is comparatively small.

The Herefordshire and Gloucestershire lists are especially helpful as regards the proportion of Welsh blood in those parts. A considerable portion of Herefordshire, including most of Archenfield, the country beyond the Wye, was Welsh at the time of Domesday. Whether any part of it remained so up to the time of the fixation of surnames may admit of doubt. Be that as it may, the proportion of Welsh names in the districts in question equals or exceeds the half. That all eastern Herefordshire was quite Anglicised seems to be proved by the fact that Welsh surnames are not more numerous in its more hilly and remote than in its richer and more accessible parishes. I presume, therefore, that all the Joneses and Griffithses, &c., there, are Welsh immigrants or their descendants; and it is curious that they amount to over 20 per cent., besides 7 or 8 per cent. more of the doubtful Welsh type. We have here the usual phenomenon of an afflux of the native race towards the capital and other centres of population, accompanied or followed by an influx of the poorer or hardier race of the neigbouring mountains. Taking Herefordshire altogether the farmers with clearly Welsh names are one-third, and so are the artisans and small shopkeepers, but the upper class with like names are not one-sixth. These proportions gradually decrease as one passes into Gloucestershire and North Somerset, but even in the Cotswold region there are still 7 per cent. of Welsh names.

The descendants of Scotchmen infiltrate in like manner the northern counties. And they and the two more purely Celtic races crowd into the English towns. But, as has already been said with regard to the Irish, they do not equally mix and assimilate there with the natives. Thus the people of Welsh descent, so far as one can judge by the names, hold their own fairly in science; the Scotch do more, the Irish less. Contrary to the current opinion, it would seem that the Welsh rise most in commerce, the Scotch coming after them, and the Irish nowhere. But when one looks to the attainment of military or political distinction, the case is altered. Here the Scotchmen, and especially the Highlanders, bear away the palm; the

Irish retrieve their position a little, and the Welsh are little heard of.

I will end by stating briefly a few more of my deductions from the tables. Some of them I make with confidence, others doubtfully.

The termination in SON was probably not confined in its origin to the Anglo-Danish districts, but extended to the Anglian ones.

Migration from the north of England to the south, and *vice versâ*, except to manufacturing centres, was very small until our own times.

The present population of the Welsh Marches is to a large extent derived from Welsh immigration within the last two or three centuries.

There has been as yet nothing like a complete amalgamation in blood of the upper, middle and lower classes.

The class of small landowners and yeomen still, to some extent, represents in blood the Saxon freemen of the 11th century.

	Peers of England.	Baronets of England.	Magistrates of Glo'stershire, Herefordshire, and Somerset.	M.P.'s for England and Wales.	Royal Society.	Fellows, College of Physicians.	Members University Club.	Mayors of Towns.	Knights Bath and M.G.	Q.C.'s or Sergeants-at-law.	Yorkshire Book.
Number	433	684	450	500	500	315	1159	500	290	205	835
Norman, 1	11·6	4·6	3·5	8·	2·6	1·3	1·	·6	2·4	2·9	·3
„ 2	2·	2·5	2·	·8	2·	1·5	2 2	3·2	5·1	4·4	2·1
Saxon ING	·9	·7	·6	·2	} 2·4	2·8	·5	1·	·7	..	·2
„ others	3·	2·	3·3	2·8			2·3	1·8	3·1	2·9	1·9
Local, 1	24·7	25·1	25·5	20·6	19·2	19·3	20·5	21·	13·1	19·	28·8
„ 2	5·6	4·8	7·3	8·4	4·2	6·7	8·1	8·6	5·5	6·3	11 5
„ of country	·2	·7	1·8	..	·2	·3	1·3	1·4	2·4	·5	·6
Occupations	1·1	4·2	6·9	7·6	5·2	3·2	6·4	7·2	4 1	4 4	7·9
„ Rural	·7	·9	} 4·	3·2	5·8	3 8	2·	1·2	·7	3·4	2·7
„ Qualified	2·7	2·3					2·1	3·	2·	4·8	1·9
Nicknames	5·3	6·3	5·5	6·4	6·	6·3	5·8	7·	4·8	5·8	7·3
Patronymics	7·7	7·7	10·2	9·8	11·1	9·5	10·6	8·4	6·8	4·8	6·
„ in SON	1·1	3·2	2·4	3·4	3·3	5·7	4·7	6·8	4·8	4·8	11·1
„ Doubtful Welsh ..	..	·6	·6	·2	} 5·4	3·5	·9	1·8	·7	2·9	1·
Welsh	4·6	4 5	10·6	5·2			4·6	9·8	2·	6·8	1·2
Scotch	16·8	15·9	4·	9·4	13·	12·	11·7	3·6	24·*	7·2	4·4
Irish	2·8	2·9	·4	·4	1·8	2·5	1·1	·4	4·5	1·9	·5
Foreign	3·4	4·5	2·	5·6	10·2	5·7	5·7	2·	4·1	5·8	1·4
of which French	1·8	2·	·6	1·2	3·8	2·5	2·2	·8	..	1·	2
„ German	·7	·7	·6	·6	4·2	1·9	1·8	·4	..	1·5	7
„ Jewish	..	1·3	·6	2·8	1·6	..	1·	1·	..	2·9	2
Doubtful..	5·9	7·1	9·	7·	7·6	10·2	7·7	9·	9·2	10·7	8·6

* 7·2 Highlanders.

	Subscribers, Bristol Museum.	Bristol Merchants.	Bristol Lower Trades.	Infirmary In-patients.	Infirmary Out-patients.	Bristol Offenders, Martin's.	Tenants, Malmesbury Abbey, since 1300. *circa.*	Farmers.		
								East and Central Herefordshire.	East Gloucestershire.	Round Bristol.
	634	250	1,000	250	1,000	100	689	700	666	1,000
Norman, 1	1·7	8	1·8	·8	·6	2·	·9	·4	·7	2·3
„ 2	2 3	1·6		4·	1·7		3·	2·1	1·5	
Saxon ING	·8	1·6	2·6	1·2	1·2	2·	1·1	·7	2 1	5·6
„ others	2·2	2·		2·	1·8	1·	6·4	2·1	3·3	
Local, 1	16·9	14·	12·6	10·	10·7	10·	15·4	12·	15·6	14·4
„ 2	7 6	7·6	8·	5·2	7·5	13·	15·2	12·3	7 6	7·
„ of country	1·4	·8	·3	·8	1·2	1·	2·6	1·4	1·2	
Occupations	9·8	10·	8·9	7·6	12·2	11·	6·4	7·1	13·2	
„ Rural	3·6	2·	2·2	2·8	5·5	8·	4·6	3·7	5·	16·2
„ Qualified		4·	4·1	2·		2·	4·9	3·6	4·	
Nicknames	8·3	8·4	9·5	7·6	10·3	10·	15·2	4·1	8·2	10·5
Patronymics	11·8	16·	16·8	18·	14·7	11·	11·2	9·3	13·6	19·4
„ in SON	3·3	1·6	1·5	2·4	2·1	2·	·1	2·	·6	
„ doubtful Welsh	2·2	3·6	3·2	7·6	1·7	6·	·6	6·	3·3	11·3
Welsh	10·2	8·4	9 1	10·8	11·1	6·	·1	21·8	7·5	
Scotch	4·1	4·4	2·3	1·6	2·	1·	..	1·1	·6	·5
Irish	1·2	·8	1·9	2·	3·7	3·	..	..	..	1·
Foreign	4·5	3·6	3·2	2·4	1·7	..	..	..	..	1·4
of which French	2·5	·4	1·6	1·2	·8	..	..	..	..	·8
„ German	·3	1·6	·5	·8	·4	..	..	..	..	·5
„ Jewish	1·6	·8	·7	·4	·2	..	..	..	..	..
Doubtful	7·4	8·8	12·	11·2	10·4	11·	12·	9·4	11·5	11·8

THE SOCIETY OF FRIENDS.

	London and Middlesex.	Essex.	Bristol, Somerset, Wilts.	Birmingham.	Warwickshire, Staffordshire, Leicestershire.	Newcastle, Darlington, &c.
Number	855	302	430	316	208	990
Norman, 1	·4	..	·7	·9	..	·6
„ 2	1·6	3·	4·4[1]	2·5	3·8	1·3
Saxon in ING	·3	..	·7	1·9	·5	·7
„ others	1·6	·7	1·1	2·2	1·9	3·1
Local, 1	17·	9·2	13·	17·1	12·	16·7
„ 2	9·9	8·9	4·4	10·4	8·6	9·5
„ of country	·6	..	·4	·3	..	1·4
Nicknames	8·3	9·6	8·3	7·9	6·7	7·
Trades	9·1	15·3	11·6	7·	7·2	6·
„ Rural	3·8	1·6	4·6	1·3	1·4	2·6
Qualified	4·2	4·6	7·9	2·5	7·2	3·2
Patronymics	14·4	13·2	18·6	8·8	16·8	6·3
„ in SON	5·4	9·2	5·8	5·7	16·8	18·8
„ doubtful Welsh ..	1·8	1·6	2·8	2·8	1·9	1·
Welsh	2·4	1·3	4·6	8·5	1·9	1·7
Scotch	3·4	..	·4	3·5	2·9	8·9
Irish	·7	·3	·2	1·3	..	·6
Foreign	2·5	9·6[2]	·7	2·8	..	1·8
of which French	1·2	9·6	·2	1·2	..	·5
„ German	1·2	..	·2	1·6	..	·8
„ Jewish	..	..	..	..	..	·2
Doubtful	11·9	11·6	8·8	12·3	10·1	8·5

DISCUSSION.

Mr. HYDE CLARKE said that the value of Dr. Beddoe's paper consisted in its classification—not in its classification according to patronymics, trade names, &c., for that had often been effected, but in the secondary classification of the application of the other series to various classes of society, thus illustrating the real bases of nomenclature, and consequently, as Dr. Beddoe wished, to prove the real bases of the population. Thus the result was obtained that English clan names lay at the base; and if this is the case, then it is evident that the percentage assigned is not the true one, but had to be corrected and enlarged to ascertain something like the ultimate figure before the transformation of clan names. When, in the middle ages, local names, trade names, and patronymics were allowed, clan names were displaced, and it is necessary to make an allowance for these. It was to his mind a question whether Smith was always strictly a trade name, or a clan name: for in ancient times that important class held distinct functions. The name of Clarke was evidently not professional: for the large

[1] Mostly Graces.

[2] All these are persons named Marriage, of Huguenot descent.

number of persons now possessing it was out of proportion with the professional number in the middle ages. One reason assigned for the name was probable: that it represented the descendants of the married secular or parochial clergy. A useful comparison, which would define the facts, could be obtained from comparison with the Directories of Paris, Rouen, Belgium, Holland, and Hamburg, not only for the trade names, but for epithets like Black, Brown, &c. These latter would in France be nicknames, and not clan names. The trade names have a particular significance, and require special attention in Dr. Beddoe's scheme. These do not represent the lowest class, nor do they represent the thanes; but in a more proper sense, a middle rather than an artisan class. In the middle ages, or at other times, it was not the pauper who became a Miller, Brewer, Maltster, Tanner, Butcher, Baker, &c.; neither did he become a Smith, Wright, &c. These were recruited rather from the younger sons of the yeomanry. In this way the proportion of trade names was an index of the share of the well-to-do people in the several classes of society mapped out by Dr. Beddoe. The flux and reflux of this trade class to and from London and the great towns affected the proportions. If the Great North Road were taken, for instance, a regular distribution of the same family names, clan, trade, and others, would be found pointing towards London, and so of other roads and towns. Thus local distribution was affected. So, as London was entered from the east, north, south-west, or south-east, would names be found on the shops and in the streets derived from the outer regions. In fact, Dr. Beddoe had opened a wide field of inquiry, in which he had already laboured with that scientific skill and interest which distinguished his works.

Mr. R. B. Holt, Mr. J. Park Harrison, Mr. Prideaux, Mr. G. M. Atkinson, Mr. C. Roberts, and the President took part in the discussion.

Dr. Beddoe briefly replied. He said that he was willing, with Mr. Hyde Clarke, to go somewhat further than he had done in his paper in the matter of survival of English clan names. As for patronymics in S, he was far from saying that they were all Welsh. Doubtless the English (in the south especially) often formed patronymics in that way; but as a rule they first cut down the Christian name, and appended the S to the abraded form; thus you had Robb and Robertson in Scotland, Robson and Robinson in Northumbria, Robins and Dobbs in southern England, but Roberts chiefly in Wales. So, too, Phipps in the south, Phipson and Philipson in the north, Phillips in Wales.

As for Cornish patronymics, they had been pretty thoroughly investigated; and their old fellow-worker, Dr. Charnock, had published a little volume on the subject, entitled "Patronymica Cornu Britannica."

The following paper was then read by the author:—

On the SURVIVAL *of certain* RACIAL FEATURES *in the* POPULATION *of the* BRITISH ISLES. By J. PARK HARRISON, M.A.

AT the York meeting of the British Association, a selection of photographic portraits, collected by the Anthropometric Committee from various parts of the country, and arranged on cards for facility of comparison, showed conclusively that very different types and sets of features are still to be met with, especially in localities which we know from history, or may infer from evidence derived from archæological research, were colonised by different races. In parts of West Sussex, for instance, profiles occur which contrast strongly with others commonly called Norman, of a more prominent character, in the same division of the county, as well as with some closely resembling them in Cleveland in Yorkshire and the Flegg district in Norfolk, both of which localities are said to have been peopled by the Danes. As features of much the same type, however, are not uncommon in other parts of the United Kingdom, if they represented exclusively the Danish element of the population, Norse blood, on such assumption, must have exerted a more extensive influence upon the national physiognomy than history permits us to think probable.

In an oral communication at the same meeting, I was able to state, as the main result of several weeks' visit to Denmark, Sweden, and part of Germany, undertaken in the autumn of 1880 for the purpose of examining the features of the populations, that the profile of the Dane proper, whilst agreeing with that assumed to be Danish in this country, differed as much, and in almost precisely the same way, from the Swedish and Teutonic profile, as in the case of the two fair Sussex types first alluded to. The name systems also appeared to be quite dissimilar. Indeed, the common occurrence of the patronymic "SEN," in Sleswick, was urged by the Danish Government, after the Prussian War, as affording strong evidence that the Duchy was not inhabited by a German, that is to say, Teutonic race.[1]

Now the Danish profile proper, which corresponds with the

[1] On counting the number of names upon tombstones and crosses, in Kôrsor cemetery, which terminated in "SEN," I found 75 per cent. with the patronymic. At Malmæo, in South Sweden, the proportion was exactly reversed. The same result was obtained on copying names in Lund cemetery. The names ending in "SEN," in Sweden, perhaps belong to families descended from the old Danish possessors of the country, as well as immigrants in recent times. Further north, it is believed that Teutonic names are almost universal. Thus in the list of Swedish antiquaries, compiled for the International Congress at Stockholm, 10 only out of 160 appear with the patronymic.

skeleton features of skulls from early tumuli in Denmark, is common in Sleswick. It is also met with in Holstein; on the Rhine (near Cologne); in Belgium; and in France. It appears from early skulls in the museum of the Anthropological Society of Paris, as well as some found in Wiltshire, which Dr. Barnard Davis considered to belong to that people, to resemble the profile of the Belgæ,[1] who, it is now believed by the majority of English and French authorities, were a Cymric tribe, Teutonised perhaps, to some extent, by long residence in Germany.[2] The type of the people of the round-barrows in this country, as shown by their osseous features, was also almost identically the same. Dr. Thurnam, writing on this subject twenty years ago,[3] says: "I must confess that the correspondence between the skull form of the ancient brachycephalic Briton, Gaul, and Scandinavian" (*i.e.*, Dane), "and that of the modern Finn, so very much exceeds any difference which may be traced in them, that I should have no difficulty, on sufficient evidence, in admitting their common parentage and descent."

The similarity between the round-barrow and early Danish skulls, and the survival of the type at the present day, has also been observed independently by other eminent anthropologists. Dr. Rolleston, in particular, writing in "British Barrows," says: "There is no doubt that this variety of the brachycephalic skull has survived amongst us in modern times. Dr. Beddoe,[4] for example, and Professor Virchow[5] have both specially remarked upon the likeness borne by certain modern Danish heads to some of the ancient Borreby crania; and the same features exist in many of not the least vigorous of our own countrymen."[6]

There is, however, another type of profile in the north that dates from early times. In his address to the Anthropological department, at Bristol, in 1875, Rolleston stated that Professor Retzius was of opinion, and, with a few qualifications, he thought that the more recent Swedish ethnologists would agree with him, that the modern dolichocephalic Swedish cranium was very closely allied to, if not an exact reproduction of the Swedish cranium of the stone period. "There can be no doubt," he adds, "that the Swedish cranium is very closely similar indeed to the Anglo-Saxon; and the skulls which still conform to that type amongst us will be by most men supposed

[1] "Crania Britannica," xxxii, 42.
[2] This was suggested by Higgins of the Cymri. "Celtic Druids," p. 98, 1827.
[3] "British and Gaulish Skulls," "Mems. Anthrop. Soc.," vol. i, p. 512.
[4] "Mems. Anthrop. Soc. Lond.," vol. iii, p. 283.
[5] "Archiv für Anthrop.," vol. iv, p. 71.
[6] "British Barrows," p. 676.

to be the legitimate representatives of the followers of Hengist and Horsa; just as the modern Swedes, whose country has been less subjected to disturbing agencies, must be held to be the lineal descendants of the original occupiers of their soil."[1]

Now the rationale of this "permanence of type"[2] has been recently treated by Professor Kollmann, of Bale, who strongly upholds the view that crossing affords the true explanation of the existence of various races of man. He finds that change takes place earliest (in case of mixture) in the colour of the hair and eyes (and it may perhaps be concluded also in the softer tissues), the form of the skull resisting longest any alteration; and though it too at length gives way, a complete fusion of the component elements is never absolutely effected.[3]

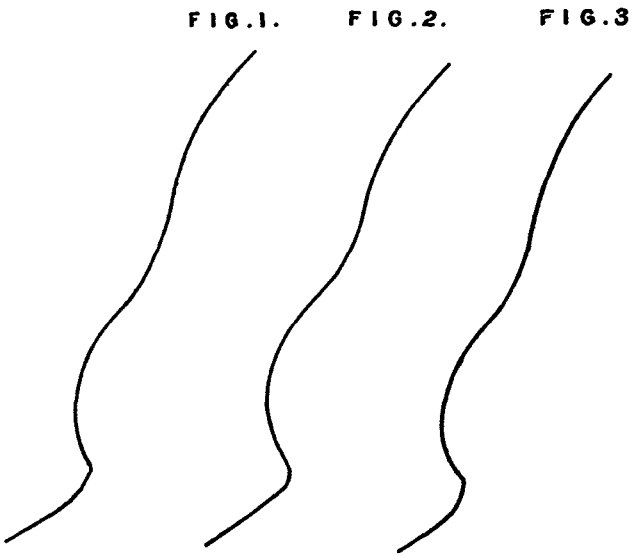
This quality of persistence in the skull to preserve its primitive type, Professor Kollmann observes, is of prime importance: for it enables us to distinguish in a mixed population the original or main racial elements that contribute to its formation. In common with Barnard Davis, Beddoe, Flower, Rolleston, Thurnam, Turner, and others in this country, and Morton, Broca, De Quatrefages, and Virchow abroad, he believes that prehistoric types survive at the present day. Professors De Quatrefages and Hamy, indeed, go even a step further, and express a strong conviction that the Neanderthal and Cro-Magnon men are represented amongst us through atavism.[4]

Induced by this consensus of opinion regarding the survival of racial characteristics, amongst craniologists of such distinction, a definition has been attempted of the more striking features of two of the principal races from which the population of this country is descended—the round-barrow men and their affined tribes, and the Saxons and Teutons proper.

The skeleton profile of the first of these types, as shown in the plates of the "Crania Britannica," is so marked that it might perhaps have sufficed to refer to some one of the examples selected by Davis and Thurnam to illustrate it. It appeared, however, to be the better plan to make tracings of the more distinctive portions of several profiles, and then superimposing them, at the same angle, obtain average contours; and it was found that this could be best accomplished by grouping the skeleton features from three counties, viz., York, Wilts, and Derby, each of which furnished six examples for the purpose. The means are accurately reproduced in the following figures:—

[1] Report Brit. Assoc. for the Advancement of Science, 1875, p. 148.
[2] An expression made use of by Dr. Beddoe many years back.
[3] "Revue Anthropologique," 1882, p. 161.
[4] "Crania Ethnica," p. 28. *See also* Thurnam, "Mems. Anthrop. Soc.," p. 519.

Fig. 2, derived from the Wiltshire skulls, includes three ascribed by Dr. Davis to the Belgæ.



The constant characteristics in the mean profiles, it will at once be seen, are the prominent brow-ridges, and the sharp angle at which the nasal bones start from the root or nasal suture, indicating, even in those cases where but a small portion of the dorsum remained perfect, that the nose was high-bridged or considerably arched, a conclusion rendered more certain wherever the nasals were in a perfect condition.

The other main osseous features of the round-barrow men, as described by Dr. Barnard Davis, Dr. Rolleston, and others, are their high cheek-bones, long upper jaw, oval face, and prominent and fine chin.

In living subjects, where all the above characteristics are present, they are very generally found to be associated with a stature above the average, fair hair and eyes, thin lips, and a pear-shaped ear, distinguished, when pure, by the absence of any proper lobe; in other words, the fossa, which exists in all ears between the helix and anti-helix, continues without interruption, without any boss or welding, up to the cheek itself.[1]

It can scarcely be doubted that where all the above charac-

[1] A continuous channel is frequently found in the ears of individuals of mixed descent, as well as some projection in the nasal bones; but in such cases there will always be a thickness in the lower rim of the ear, and more or less undulation or sinuosity in the nose, which is not found in true types.

teristics are present, and the skull has a tendency to brachycephalism, an individual may be safely predicated, in this country, as belonging to the round-barrow race.

The identification of the second main type, which is supposed principally to have influenced English physiognomy, and is commonly called "Anglo-Saxon," presented greater difficulty, and required a somewhat different mode of treatment. The average skeleton profile of the round-barrow men being taken as a standard of comparison, and tracings made, in the same way as before, of the osseous features of the nine Anglo-Saxon skulls selected as examples of that type in the "Crania Britannica," on examination three of the profiles were found to exhibit so much divergence from the remaining six that it was decided to keep their contours separate.

The tracings of the six homogeneous profiles having been superimposed, and an average contour obtained, it showed a marked contrast to that of the round-barrow type: whilst the mean contour of the three divergent profiles indicated either considerable mixture of blood, or a different racial origin altogether (*see* figs. 4 and 5).

FIG. 4.

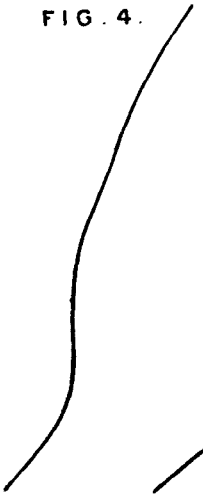
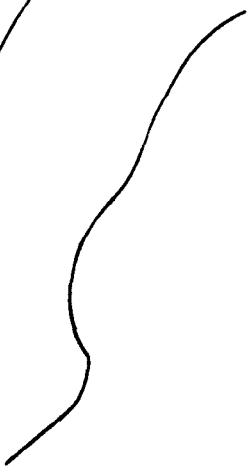


FIG. 5



It was found also that the average profile, in the case of fig. 4, differed but slightly from each of the several tracings. The mean of the three Anglo-Saxon profiles comprised in fig. 5 resembles more nearly the round-barrow type: and this, it is important to note, is not to be attributed to any sexual pecu-

liarity, all the examples of Anglo-Saxon crania, with one exception (a skull from Long Wittenham), being male.[1]

The contour in fig. 4 differs from the profile of the round-barrow men in the following particulars: the brows are less prominent, the forehead more vertical and rounded, and the nasal bones less projecting—in fact, they start at an angle that precludes any possibility of the living subjects having possessed a high-bridged nose.

Following Professor Flower's method of determining profile-projections by dimensions taken very carefully from the basion, or anterior portion of the *foramen magnum*, the projection of the dorsum in skulls, with perfect basions and nasal bones, was next ascertained by measuring the distance, first to the centre of the nasal suture, and then to the point of maximum projection of the nasals: the difference between the two dimensions being taken arbitrarily as the nasal projection. Three skulls were selected for experiment in the museum of the Royal College of Surgeons. The first was the skull of a Scotch Highlander, the second a Gaul of the Roman period from Acheul cemetery, and the third a Persian, each presumably once possessing an aquiline or high-bridged nose. The following was the result:—

No. 1.	Nasal projection	·30 inch.	(·80	cm.)
„ 2.	„ „	·25 „	(·65	„)
„ 3.	„ „	·25 „	(·65	„)

Subsequently four skulls of the round-barrow type, in the Greenwell collection at Oxford, were submitted to measurement in a similar way. They comprised the whole of the specimens that were sufficiently perfect to allow of comparison. The mean result was as follows:—

Nasal projection, ·22 inch (·58 cm.)

Three skulls from round-barrows in England, and one from Ireland, in the Cambridge Anatomical Museum, were also measured under similar conditions, and with the same result:—

Nasal projection, ·22 inch (·58 cm.)

Contrasted with the above results, the mean nasal projection in four Anglo-Saxon skulls in the museum of the Royal College of Surgeons proved to be considerably less, notwithstanding

[1] The skulls, which exhibit features resembling the earlier types, were derived from cemeteries at Fairford, Brighthampton, and Litlington.

Dr. B. Davis, speaking of the skull from Fairford, says the evidence pointed to its being mixed—British and Anglian; and the Brighthampton skull is described as being very similar to it. The Litlington cranium is very dolichocephalic, with narrow walls, probably more Iberian than Saxon.

Dr. Beddoe informs me that the largest and finest skulls were selected for the plates in the "Crania Britannica." Objects buried with later interments are not always evidence that the owners were Saxons.

that in one instance (an East Anglian skull from Linton Heath cemetery) the nasal bones were very prominent. The mean result was:—

Nasal projection, ·12 inch (·30 cm.)

Finding from experiment that half-an-inch (1·25 cm.) in length of the nasal bones, measured from the suture, sufficed to show the angle of projection, and when this was acute, that the nose would have been necessarily high-bridged, or strongly arched; and when obtuse, either straight or incurved; eighteen crania out of forty in the fine collection of Anglo-Saxon skulls made by Dr. Thurnam, which were presented to the University of Cambridge by Professor Humphrey a few years ago, proving sufficiently perfect for the purpose, the projection of the nasal bones was ascertained in the same way as before. The results of the measurements will be seen in Tables I and II, in which the male and female skulls are kept separate:—

TABLE I.

TEN MALE ANGLO-SAXON SKULLS.

Museum No.	Nasal projection.
238	·05 in.
*244	·10 „
245	·00 „
*247	·10 „
249	·05 „
258	·00 „
261	·10 „
*268	·15 „
*270	·15 „
273	·00 „
Average	·040 „ (·10 cm.)

TABLE II.

EIGHT FEMALE ANGLO-SAXON SKULLS.

Museum No.	Nasal projection.
249	·00 in.
250	·05 „
264	·05 „
265	·01 „
266	·05 „
267	·05 „
269	·05 „
282	·05 „
Average	·012 „ (·03 cm.)

The numbers in Table I show, on the average, greater projection in the male than in the case of the female nasals; but this is

due to the prominence of the nasal bones in the four crania distinguished by an asterisk; and these skulls were derived from three cemeteries, Fairford, Kilham, and Long Wittenham, in all of which were mixed interments. That the skulls in question were male examples does not account for the greater projection of the nasals, for in the remaining six male skulls no tendency of the kind is shown. So, too, with the facial skeletons of "Anglo-Saxons" in the "Crania Britannica," before alluded to, five out of eight male examples exhibit slight nasal projection, and it is of some importance to note that two of the three exceptions are considered by Dr. Davis "East Anglian." In profile they resemble the osseous features of the round-barrow type more nearly than the Saxon. It should be mentioned that Dr. Beddoe and Mr. David Mackintosh believe that the Anglian features (and also the Frisian, as nearly affined to them) were more prominent than the Saxon. On abstracting the four doubtful skulls, the average nasal projection in Table I would be the same as in Table II—·012 inch (·03 cm.).

Very few of the crania of the bronze period in the three museums were sufficiently perfect to allow of measurements being taken from the basion; but it was ascertained that the projections already taken (page 248) became reduced, on an average, by ·12 inch (·03 cm.) at the half-inch limit.

It is unfortunate that the locality which the Saxons proper inhabited in Europe, before they commenced their wanderings, is undefined. The skeleton features of the people, as distinct from other Teutonic tribes, are in consequence unrepresented in any German publication; and but little information can be obtained about early Saxon skulls. The plates of Teutonic crania, available for comparison, illustrate a region in South Germany that appears to have changed its inhabitants. It contains, however, a district in which local names, according to Mr. Isaac Taylor,[1] resemble a number still met with in Saxon counties in England, as well as some parts of France and Sweden.[2] And it is in the locality alluded to that many German anthropologists believe that, if not the earliest, the most distinct traces of the "Teutons" are to be met with.[3]

One point of considerable importance is the dolichocephalism

[1] "Words and Places," p. 87. Mr. Taylor does not find Saxon names in Sleswick.

[2] *Ibid.*, p. 79. It is supposed that the Suiones were pure Teutons, and that they were nearly related to, if not of the same race as the Swedes. Some of the earliest classical writers speak of the Teutons as inhabiting islands in the North. Retzius, as stated in the text, considers the Swedes and Saxons as nearly related in blood (*see* p. 244).

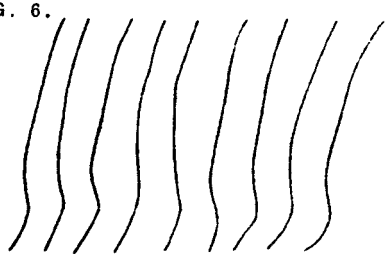
[3] Since this paper was read, Dr. Brande has communicated an interesting paper to the "Antiquary," on the prevalence of Saxon words in the neighbourhood of Minden.

of a large proportion of the ancient skulls in this part of Germany. From Table I, in Ecker's "Crania Germaniæ," it appears that two-thirds have a breadth-length or cephalic index below ·75. Nine only exceed ·80, and these were all derived from three tumuli at Allensbach, Attinsheim, and Sinsheim. Judging from the plates, the skull forms and skeleton features resemble very closely those called Saxon in this country. The brows do not appear to have been prominent, the nasal bones project at an obtuse angle, and the forehead is more or less vertical.

The resemblance between English and German Teutonic skulls from old tombs will be seen on comparing tracings of skeleton profiles in the "Crania Germaniæ," with the average Saxon profile shown in fig. 4, derived from plates in the "Crania Britannica."

The German examples are half the natural size.

FIG. 6.



As in the case of the skulls of the true dolichocephalic or long-barrow type in England, the calvaria of the earlier dolichocephalic skulls in Germany appear to be evenly narrow, and the nasals more prominent than in the facial skeleton of the later sub-dolichocephalic Teutonic type; and the face is more orthognathous. Any further discussion, however, of the pure dolichocephalic type must be postponed until more progress has been made in the identification of its racial affinities.

In the important work just completed by MM. De Quatrefages and Hamy (the "Crania Ethnica"), though no example is given of a Saxon or Anglo-Saxon skull, there are plates of two typical German crania in profile, one representing the brachycephalic type prevailing in Bavaria and the South; the other the sub-dolichocephalic Teutonic type, which accords with the description given above. In a note, Professor De Quatrefages informs us that dolichocephalism increases rapidly in going north and east in Germany.[1] This would probably be amongst a more Teutonic population.

[1] "Crania Ethnica," Plate LXXIV, and note. M. Spengel, of Gottingen, is quoted as giving a cephalic index of ·79 to that district. At Lorentzberg this falls to ·75 (according to M. Lisseur), and to ·73 above New Stettin and Dantzig.

Returning to a point which has already been alluded to, namely, whether prominence in the nasal bones may not be sexual, and consequently of little value as a racial characteristic; though it would probably be found that the female brow is generally smoother and more vertical than in the male, the form of the nose, though finer, is equally racial. Professor Flower, in a recent paper (read before the Institute in 1880), said: "The nose is one of the most important of the features as a characteristic of race, and its form is very accurately indicated by its bony framework,"[1] and so we find that the nasal bones of the women of the bronze period projected at an angle indicative of a high-bridged nose; and this character prevails amongst women in populations amongst which it is found to be most remarkable in the male: as, for example, Dublin, East Norfolk, the East Riding, and the North of England.

Perhaps the best evidence that Saxons generally, whether men or women, had smooth brows, and straight nasals of but slight projection, is obtained from General Pitt Rivers' collection of skulls from Wiltshire cemeteries, the great majority of which are pure Saxon, and present remarkably even contours.

So large a percentage of Anglo-Saxon skulls (so called) have smooth brows, and nasal bones of moderate projection, that it would seem, as said before, that those exhibiting prominent brow-ridges and sharply projecting nasals are not true Saxon examples, but either Anglian, Frisian, Jutish, or mixed.

Mackintosh expressed an opinion more than twenty years ago that ethnologists could not make much progress in the work of classification without perceiving the necessity of distinguishing between Jutes, Frisians, and Saxons. The Angles also, he and Dr. Beddoe believe, were closely allied to the Frisians, and had prominent features.

As a further step in the identification of Teutonic faces, it was necessary to inquire whether living features, corresponding to the osseous profiles of skulls from early cemeteries in Germany, are found in that country at the present time.

Presumably Cymric in the north-west, and Celtic and Iberian in the south, a large residue of the German population remains to which the term Teuton may properly belong; and it is believed that the early features of the race survive and can be recognised.

Schadow, writing fifty years ago, says (in his "National-Physionomieen"[2]) that "the prime distinction in the German face

Early skulls from the neighbourhood of Bremen appear also to be sub-dolichocephalic.

[1] "Journ. Anthrop. Inst.," vol. x, p. 160.

[2] Page 81.

proper is, *that it departs from the Caucasian type more than is observed in other (European) nations.*"

Amongst the lower orders, presumably less mixed than the aristocracy, he states that the lower portion of the face, as compared with the middle (or the part occupied by the nose), is in the ratio 3 to 2. This is not so in what he terms the Caucasian face, where the proportions are equal.

The German cheeks also are described as large, and the lower jaw long. The nose is not prominent, and terminates in a bulb. The nostrils are full. The upper lip, which is short, "produces as a consequence, an apparent heaviness in the lower jaw." This is said to be a very characteristic feature of the pure German race.

In two of the profiles of Germans on Trojan's Column, the lower part of the face is represented as longer than the middle. To find a long upper lip in a German face, Schadow says, we should have to seek for it in modern pictures. Oval faces were common amongst the higher classes in Germany in his day. In other cases they were rounded.

Illustrations are given of all classes. The first, which is described as a good example of the feminine type, has a rounded face. The profile shows an incurved nose; the cheek-bones are wide, and the eyes prominent, all of which characteristics, Schadow says, are to be seen in the works of the *earlier* German artists, and so continued up to the time of Sandrard, when Italian and Greek types were introduced into the art schools of Germany.[1] This information is important, since portraits are often referred to as exhibiting national characteristics.

Amongst male portraits there are two of James Paine and his son, by Holbein,[2] which are given as English illustrations of the German type of face throughout Europe, and one very common in England, "perhaps even representing the English physiognomy itself." The nose in both cases terminates in a slight bulb, and the lower portion of the face is broad and heavy. Another illustration (measured from life) is of especial value. It is given as illustrating Schadow's Caucasian type of beauty, due to a greater length of the nasal region, accompanied with and harmonised by a longer mouth, and presumably straighter lips, than is found in the Teutonic face pure. The fair hair and tipped nose, however, in this example, he says, indicate a German origin. The example is from Mecklenburg, and represents probably a mixed type—Cymric and Saxon. It is curious to note the difficulty Schadow experienced in defining racial features, owing to the use of the unfortunate term "German."

[1] "National-Physionomieen," p. 81.
[2] Schadow, "Atlas," Plate XXI

Another portrait, "Scola,"[1] exhibits the type of the lower classes in Germany: the cheek-bones are wide, the lower jaw long, and the nose thick, with a bulb at the tip, which is also a conspicuous characteristic in the face of Cardinal Kollowrath, whose physiognomy is said by Schadow to be "*eine rein Deutsche*," —pure German.

Before leaving Schadow it should be mentioned that he was a sculptor of some eminence, and member of several foreign societies. He lived in the earlier part of the present century.

Without any of the special knowledge of races possessed by anthropologists, he was aware that there was some mixture of blood in Germany; and he looked for examples of the pure German or Teutonic type in the ranks of the lower classes. Living, however, in a part of Germany where it is believed that the Teutonic type proper prevailed, the above description of the "German" physiognomy is of considerable value for the purpose of comparison with English types.

It will be well to quote his view, as an artist, of the value of single portraits for illustrating racial types. "Since it is impossible," he writes, "to represent in a palpable shape general appearances,[2] it is necessary to content ourselves with choosing some individual whose physiognomy presents none of the peculiarities of another type."[3]

Acting on this principle, there will be little difficulty, I believe, in obtaining photographs to illustrate the typical races forming the population of the British Isles for the acquisition of which, in connection with a correct definition of racial types, a committee has been appointed by the British Association.

On comparing the foregoing description of the true German type of face, which appears to be that of the Teuton proper, with the physiognomy which, if not dominant, is common in some parts of Sussex at the present day, there appears to be a remarkable concordance which will assist much in its identification throughout Great Britain generally, as well as in France[4] and other countries.[5]

[1] Schadow, "Atlas," Plate XXVIII, fig. 4. The low situation of the ears in this subject is noticed as remarkable.

[2] This is perhaps the case even now, though by an ingenious process Mr. F. Galton is able to form composite portraits, in which minor differences are eliminated.

[3] "National-Physionomieen," p. 80.

[4] Photographs of public characters in France, with all the features above enumerated, on being recently submitted by me to M. De Quatrefages for his inspection, were accepted by him as representing the Teutonic type.

[5] The last number of the "Bulletins" of the Anthropological Society of Paris, published last July, contains a paper by M. De Mérejkowsky: "Sur un nouveau caractère anthropologique" ("Bull. Soc. Anthrop. Paris," 1882; Ser. III, t. v, p. 293), in which he shows the importance of the nasal bone as a racial feature even more characteristic than the skull form itself.

The main characteristics of the Saxon type appear to be :—

1. An elliptical face.
2. Wide, but not high cheek-bones.
3. Smooth brows.
4. A vertical forehead.
5. Nasal bones short, and slightly projecting: ending in more or less of a bulb.
6. Eyes prominent: blue or bluish grey.
7. Hair light.
8. Ears flat, with a lobe proper.
9. Lips moulded, the upper one waved.
10. Stature moderate: rather above the average.
11. Form rounded, and bones well covered.
12. Mean cephalic-index about ·75.

This definition accords very closely with the Saxon type of Beddoe and Mackintosh.

The survival of the Teutonic type, as well as that of the earlier races in this country, is proved not only by the close correspondence of osseous forms, but also by the fact that features not generally supposed to be permanent exhibit great similarity wherever descendants of the original inhabitants have existed under circumstances favourable to the conservation of original racial characteristics, even in localities far remote from each other, and from the common ancestral centres.

NOTE.

Besides endorsing the views of Dr. Thurnam, and other English anthropologists, that the earliest skulls were dolichocephalic, M. De Quatrefages' recognition of the fact of the survival of early types confirms the previsions of the distinguished craniologist above alluded to.

Dr. Thurnam, in a paper on British and Gaulish Skulls in the "Memoirs of the Anthropological Society of London," used these words :—"I conclude with an interrogation: Is it not probable that the long and short skulls found in the two classes of the most ancient tombs of England, which have occupied so much of our attention, are the direct and but slightly modified descendants of those truly primeval long-heads and short-heads whose remains from time to time are found in the bone-caves of western Europe—in England, Belgium, Germany, France, and the Spanish peninsula? For a satisfactory answer, time must be afforded; and, in the words which were employed

by the Father of Medicine, with a different application, we may exclaim, 'Life is short, and art long; the occasion fleeting, the judgment difficult!'"[1]

Discussion.

Dr. Beddoe thought Mr. Park Harrison's method of working was satisfactory, and might lead to some solid results. With respect to the similarity between long-barrow skulls and Anglo-Saxon ones, he said that Professor Rolleston, while stating that his museum assistant (not an anthropologist) could usually distinguish them, laid down no canons of any importance on the subject, except as to the greater width and strength of the Saxon jaw. The prominent browed, aquiline nosed Danish type, was not the only one prevalent in Denmark. There was something feminine about the Anglo-Saxon brows and nose root. He quoted Herr v. Rütimeyer, who constituted a Burgundian type from skulls found at Belair and elsewhere, which skulls, however, Von Hölder believed to be those of female Allemans or Burgundians, the Hohberg being the corresponding male type. There was much yet to be done in England with respect to Iberian and other primeval types. The best-marked type now existing in Siluria had not, usually, curly hair, which Tacitus especially noted as present in the Silures.

Professor Thane, Mr. Atkinson, and the President also joined in the discussion.

[1] "Mems. Anthrop. Soc. Lond.," 1864, p. 519.

THE JOURNAL

OF THE

ANTHROPOLOGICAL INSTITUTE

OF

GREAT BRITAIN AND IRELAND.

MAY 23RD, 1882.

[*A Meeting held at No. 4, Grosvenor Gardens, S.W., by invitation of the President and Mrs. Pitt Rivers.*]

Major-General PITT RIVERS, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From R. CUST, Esq.—On the Present State of Mongolian Researches. By Prof. B. Jülg.

—— Caucasian Nationalities. By M. A. Morrison, Esq.

—— A Mundári Primer. By the Rev. J. C. Whitley.

From the Rev. J. SIBREE.—The Antananarivo Annual. No. 5. Christmas, 1881.

From Capt. GEORGE M. WHEELER.—Report upon the United States Geological Surveys West of the 100th Meridian. Vol. VII. Archæology.

From the SECRETARY OF THE UNITED STATES TREASURY.—Refunding of the National Debt: Notes of an interview between the Finance Committee of the Senate and the Secretary of the Treasury, the Comptroller of the Currency, and the Treasurer of the United States.

From the AUTHOR.—Suggestions on the Formation of the Semitic Tenses. By G. Bertin, M.R.A.S.

——On the Origin of the Phœnician Alphabet. By G. Bertin, M.R.A.S.

From the AUTHOR.—Paul Broca and the French School of Anthropology. By Dr. Robert Fletcher.
—— A Sketch of the Modern Languages of the East Indies. By Robert M. Cust.
From the ROYAL ACADEMY OF COPENHAGEN.—Oversigt over det Kongelige Danske Videnskabernes Selskabs. 1881, No. 3; 1882, No. 1.
From the SOCIETY OF ANTIQUARIES.—Archæologia. Vol. XLVII.
From the INSTITUTION.—Journal of the Royal Institution of Cornwall. April, 1882.
—— Journal of the Royal United Service Institution. No. 114.
From the ASSOCIATION.—Journal of the Royal Historical and Archæological Association of Ireland. October, 1881.
—— Proceedings of the American Association for the Advancement of Science. August, 1880.
From the SOCIETY.—Journal of the North China Branch of the Royal Asiatic Society. New Series. Nos. 9, 11, 13.
—— Proceedings of the Asiatic Society of Bengal. February, 1882.
—— Journal of the Asiatic Society of Bengal. Extra Number to Part I for 1880.
—— Berichte über die Thätigkeit des Offenbacher Vereins für Naturkunde in den Vereinsjahren vom 13 Mai, 1877, bis 29 April, 1880. 19, 20, and 21.
—— Transactions de la Société Impériale des Amis d'Histoire Naturelle, d'Anthropologie, et d'Ethnographie: Moscou. Tom. XXXIV, liv. 2; Tom. XXXV, partie I, liv. 4.
—— Journal of the Society of Arts. Nos. 1538, 1539.
From the EDITOR.—"Nature," Nos. 654, 655.
—— Revue Scientifique. Tom. XXIX, Nos. 19, 20.
—— Correspondenz-Blatt. May, 1882.
From the CONDUCTOR.—Scientific Roll. May, 1882.

The following paper was read by the author:—

On SYSTEMS *of* LAND TENURE *among* ABORIGINAL TRIBES *in* SOUTH AFRICA. By the Right Hon. Sir H. BARTLE FRERE, G.C.B., G.C.S.I., F.R.S., &c.

I PROPOSE to submit to the Institute a few remarks on the tenure of land among the Aborigines of South Africa, as compared with what we find among similar tribes in other countries, especially in India.

Considering its great importance to the future of any country the subject of aboriginal land tenures in South Africa has hitherto attracted little attention, and it is desirable to indicate the points regarding which further inquiry is needed, whilst it

is still possible to obtain information from sources which, in the course of another generation, may be closed for ever by the extinction of races, or by the disappearance of those among whose oral traditions we must search for the only traces of the rules they and their forefathers obeyed regarding the tenure of land.

Bushmen.

It would seem of little use to inquire regarding the land tenures of the Bushmen, the least civilised, if not the most ancient, of all the aboriginal tribes of South Africa. Subsisting by hunting, and by such animal food, including reptiles and insects, as the wilderness affords, on honey, and on roots, fruits, gum, and other wild vegetable products, they require, in the condition in which they are now known to us, no land for culture or pasture. Living in caves, and under other natural shelter from the weather, they do not even need ground for hut-building. As a nomad race, at variance with their less barbarous neighbours, whose flocks and herds they are in the habit of stealing for food when opportunity offers, and liable always to pay the penalty of their thefts at the cost of their lives or freedom, they have no resource but to decamp further into the recesses of their deserts, when other races, possessors of sheep or cattle, approach; they offer, in fact, an almost unique instance of a people without visible territorial rights, or even a shadow of land tenures.

Possibly some one may yet learn from Bushmen's songs or tradition, whether the Bushmen feel that the districts which they have long inhabited belong in any sense to them; but when in South Africa I inquired in vain for any traces of a sense of ownership, stronger than that of the wild animal who haunts the wilderness which man has not yet invaded. I could hear of nothing similar to the feeling with which the Gaika Kaffir is said to gaze on the Amatola Slopes, from which his tribe has been driven within living memory; or with which the Galeka is said to regard the intrusion of Fingo settlers into what was once Galekaland in the Transkei.

But such feeling may exist among Bushmen, though I could hear of no trace of it, beyond the general charge of vindictiveness and treachery towards strangers, which may have its origin in a sense of wrong caused by the strangers' intrusion into Bushman hunting grounds. Connected with the inquiry whether any sense of proprietary rights in their lands ever existed, is the question whether the Bushmen, as known to us since the European occupation of South Africa, are a race in a low state of development, advancing towards civilisation, or whether they are the remnants of a race once in a higher state of civilisation,

who have long been descending towards barbarism and extinction.

My own opinion inclined towards the latter conclusion. But it was only an opinion, and was based partly on the traces of arts, such as music and painting, which are found among Bushmen, and which are far superior to the rudimentary efforts of which traces are to be found in most savage tribes. It is possible that closer and more extended enquiry may elicit evidence of great value in deciding a question which has always divided students of anthropology.

Hottentots.

Bushmen are still to be found, in many remote parts of Southern Africa, in the same wild state in which they are described as living when the earliest European travellers first discovered them. But the remnants of the more settled Hottentot race have been either absorbed into the population of European settlers, or, where the Hottentots still exist as a separate community, their ideas and habits have been so altered by long intercourse with Europeans, that it is necessary to refer to the descriptions of the earlier travellers to learn what were the Hottentot laws and customs regarding land, before Europeans visited them.

The earliest voyagers, when discriminating between Hottentots and Bushmen, describe the Hottentots as living only partially by the chase, and as possessing flocks and herds whose milk and flesh formed their usual means of subsistence. Hence the Hottentots, as was natural with a pastoral people, appear to have had very distinct ideas of property in land. It is clear, from the accounts of the early Dutch and other travellers in South Africa, that every Hottentot tribe had its territory, into which strangers might not intrude for pasture or hunting, without the leave of the tribe; each kraal had its pasture lands distinct, over which the people of that section of the tribe moved their mat huts, as the need of their herds, for grass or water, rendered advisable. As each kraal had more or less of a family constitution it is difficult to say how far the pasture lands were held in common, or as the property of the individual occupant. It is difficult also to ascertain what may have been the aboriginal Hottentot notions of property in cultivated land. Kollben, one of the early Dutch authorities, describes their agricultural operations in his time, the early part of last century; but his descriptions do not enable us to say how far the operations he describes were of native Hottentot origin, or had been learnt, as many of them manifestly had been from their Dutch masters. Thunberg, a much later authority,

speaks indirectly of the cultivation of land as a Kaffir custom unknown to the Hottentots before Europeans settled among them.

It is quite possible that in the earlier Dutch archives may be found records of the Hottentot usages regarding the tenure of land, before their land customs and laws were modified by European ideas and influences; and I would commend the inquiry to colonial historians, who, like Mr. John Noble and Mr. Theal, have already rescued from oblivion so much of general interest which is preserved in the earlier records of the Dutch colonists in South Africa; and to the Doctors Hahn who have made the Hottentot race their special study.

At present everything relating to property in land among the Hottentots in the Cape Colony is founded on the principles of the Dutch or some other European law. Many men of more or less pure Hottentot parentage possess farms or townlots (Erven) which they hold under the provisions of the Roman Dutch law of the Colony, slightly modified, as it has been, by the English laws and local legislation of later times. Many more, especially in the Moravian and other mission settlements, hold under tenures framed by the missionaries on European models. The land is vested generally in a corporation—represented by the office bearers of the Missionary Society, or by trustees on their behalf. These, or when they are non-resident their resident representatives, administer the property with more or less absolute authority as landowners, each of the inhabitant families having a townlot (erf) for his house and garden, and rights of grazing cattle on a large extent of commonage.

There is considerable difference in different settlements, or "locations," as they are called, as to the extent to which each "erfholder" is absolute proprietor of his own "erf," and its attendant rights of commonage. Sometimes he has all rights unfettered, as in our freehold tenures; in other cases he has the more or less restricted rights of an English copyholder, or of a tenant for life, or during good behaviour; and very often he is bound not to alienate his land without the consent of the missionary superintendent, or of the community. But we need not discuss such tenures, for they are manifestly all of European origin; and retain few, if any, traces of aboriginal custom.

I may, however, note here that where the superintendent or elders of the Mission have retained their authority as landlords, and the influence thus given to them as quasi-magistrates, there is a marked difference for the better in the moral tone of the people in the settlement, as compared with settlements where every man is his own master, subject only to such restraint in his drunkenness or idleness as may be imposed by the distant authority of the colonial magistrate.

In the former case the missionary, or superintendent, has taken the place of a native chief, and the result seemed to me to indicate an important truth of which we have frequent evidence elsewhere, that the machinery of a centralised government like our own is not adapted to secure the well-being of less civilised races, without the intervention of some quasi-patriarchal authority to take the place of the head of the family, of the clan, or of the tribal chieftain.

Kaffirs.

This system of "locations" which I have just described, more or less pervades all the Kaffir settlements within the older colonial boundaries; but in the territories more recently annexed, such as Fingoland, Tembuland, Basutoland, &c., a system more in accordance with the usages of a peaceable and well governed Kaffir tribe, has been introduced. The land has been portioned out to families, whose headmen are recognised as the family representatives, each headman being held responsible to a certain extent for the conduct of the individual inhabitants of his kraal, as well as for the payment of hut-tax or other Government dues. We shall have occasion to refer again to these arrangements when considering the adaptation of Kaffir ideas of land tenure to the position of Kaffir colonial subjects and tax-payers. For the present it is sufficient to note that we must look beyond our colonial boundaries, and even beyond the territory of protected tribes, to discover what were the ideas of land tenure prevailing among the Kaffirs, before they were subjected to the influence of European neighbours.

I may here note that I have searched in vain through our colonial South African codes of law, without discovering any recognition of *native* land tenures, other than those invented for the natives by their European rulers and legislators. Had any such really aboriginal land tenures been found existing, with recognised force among the native tribes subdued by, or annexed to, the Colony, they could hardly fail to have been mentioned in codes like those of Natal, or of the former Colony of British Kaffraria, which was maintained for years as a separate Colony, with an independent legislature of its own, chiefly on account of the large numbers of natives inhabiting it. The rules regarding hut-tax, the extent of land allowed to each household, and its rent,—all these codes are manifestly of European origin; and almost the only fact regarding purely native customs, which one can gather from the body of English-made law, is the greater or less authority and importance attributed to the native chief.

In Zululand, if anywhere, or among the Bechuana tribes, one

might expect to find evidence of the rules or customs relating to land, which prevailed prior to the intrusion of European influences. But even in the case of Zululand one is constantly reminded of the necessity for the caution inculcated by Sir Henry Maine, in discriminating between what are genuine aboriginal customs, and what are later inventions, consequent on contact with more civilised races. Still more is it necessary to enquire whether any given custom is general among all the tribes of a given race, or whether it is a local peculiarity consequent on local causes, or on the personal peculiarities of some individual chief.

Briefly—omitting details which will be referred to further on—what we find regarding Bantu land tenures, whether among the Amakosha or Zulu Kaffirs, the Bechuana or Metabili tribes, amounts to little more than this. A man who wishes to separate from his paternal kraal seeks a vacant place to settle in—whether under the wing of some chief, or in some unoccupied tract. He builds his kraal and pastures his cattle; his wives break up a patch of ground, and sow Kaffir corn or maize. If he is under the protection of a powerful chief, his settlement may descend to his children, but he must take his chance of being attacked by a stronger tribe, himself slain if he fail to escape by flight; his cattle, wives, and children swept off, and his pasture-lands and corn-fields left to relapse into waste, or to become the possessions of some fresh occupant.

Should he escape such dispossession by invaders from without, he may lose his lands and other posessions by being "smelt out," as a wizard. Sometimes the accusation is based on the fact that the king or chief, or some one of influence, has suffered from sickness, or has lost cattle from an epidemic disease, or met with some other misfortune. The person "smelt out," as having bewitched either men or cattle, is rarely a poor man, is never formally tried or placed on his defence, and seldom hears of the accusation against him till the "impi," or armed force charged to execute the sentence upon him, arrives at his kraal. Sometimes the sentence is merely a fine of cattle, but generally, it is "eating up," which may mean anything—from stripping him of all that is worth taking, to destroying him and all that belong to him, including human beings and cattle, which are not worth taking as additions to the property of the chief who has sent the "impi."

As a rule "impis" attack a kraal by night; a Kaffir, when asked the reason of the number of dogs generally found about a kraal, will say they are essential to his safety as giving warning of the approach of strangers or wild beasts, and will often add that "if from the mode in which the dogs bark, he suspects

an 'impi' is coming, he would creep out and hide in the nearest thicket; for, if the 'impi' returns to head-quarters, and reports that they were unable to find the accused, and inflict the sentence on him, it appears to be generally held that the accused is free, and may, and indeed ought to go to the chief who sent the 'impi,' and claim immunity from further punishment for that offence." It has, in fact, been purged by the ineffectual attempt to punish it.

For any occupation of land larger or more permanent than that of a single family, not only the permission of the dominant chief of the territory, but of the councillors and elders of his tribe, is necessary to give validity to the permission to occupy. This permission is more or less formal, according to the individual power of the chief. It may be a mere form if the chief is a powerful autocratic despot; but the want of such confirmation by councillors and elders is always liable to be pleaded as an excuse for questioning or setting aside the permission to settle.

I may here refer to a well-known case, in which the want of such confirmation was made the excuse for breaking through a grant by a great chief.

The Transvaal Boers on the Zulu border had long coveted and partially occupied, as summer grazing grounds, a large tract of Western Zululand, extending from the Swazi border to the Natal border, and from the skirts of the Drakensberg Mountains to a line east of the Blood River.

In 1856, there was a contest between the sons of Panda, the reigning Zulu king, for the right of succession. Two of the sons, possible claimants to the succession, had fled to the Transvaal, to escape from Cetewayo, the most powerful of the competitors. He wished to secure them, and having negotiated with the Boers for their surrender, it was finally agreed that they should be given up to him, under a promise that their lives should be spared, and that he should, in return, secure to the Boers the cession of the coveted territory. The compact was recorded in formal deeds, in the Dutch language; the territory was duly marked out and occupied by the Boers, who built on it more than eighty farm homesteads, and occupied it for years. At Panda's death, several years afterwards, Cetewayo succeeded in peace to his father's throne; but when his power was firmly established he repented of his bargain, and sought to regain possession of the ceded territory on the grounds that the cession had never been ratified by the councillors and elders of the Zulu nation, and that it was on this ground invalid, as beyond the powers he then possessed. This is the cession which was declared void by a commission of Natal officials in 1878.

It will be seen from what has been stated that Kaffir custom regarding the tenure of land forms no exception to Savigny's definition, as quoted by Sir Henry Maine (*vide* "Ancient Law," chap. VIII.), that "property is founded on adverse possession, ripened by prescription." A Zulu title rests simply on force, whether the power to hold be that of the occupant, or of the chief who protects him. The land is his property as long as the occupant can hold it, by his own force or that of his chief, supported, in the case of a large grant, by that of the chief's tribe, where the occupation has been permitted or recognized by councillors and elders.

With regard to all the Kaffir tribes and families of the Bantu race, we must bear in mind that they have been till lately, from the earliest times to which their traditions ascend, in a state of constant migration: ever on the move, either as conquerors or as vanquished, either occupying fresh country of some weaker tribe, or flying themselves before the advance of some more powerful tribe. I do not know of a single Kaffir, Zulu, or Bechuana tribe which is not said to have come, in comparatively recent times, from some country far distant from their present habitations. It never occurred to me that this tendency was due to any deficiency, in the Kaffir, of love for the place where he was born, or in which he had long resided. On the contrary, the Kaffirs seemed, as far as I could judge, unusually prone to become attached to their native wilds, and however philoscphically they might bear inevitable expatriation, there was frequent evidence of home sickness, of affectionate longing for the land of their birth. The ceaseless wanderings of every Bantu tribe within the time of traditional history, seem to me to be mainly due to the absence of political cohesion, preventing the formation of any settled state, sufficiently strong in the possession of permanent bonds of internal union to resist dissolution and disintegration from within, as well as destruction from external forces.

What are the elements of political cohesion? What are the bonds which combine together families into tribes, and tribes into nations, able to hold together and resist external forces? These are wide questions, cognate indeed to that of land tenures on which we are now engaged, but branching out into yet larger questions as to what is civilisation, and how it is promoted, and how destroyed or impaired? We can only glance at them now, as far as may be necessary to ascertain what are the causes of the inherent want of strength or permanence in the political institutions, as well as the land tenures, of the Bantu races. Why are the tribes composing them ever wandering, ever being broken up and reforming, so that land tenures, such as have grown up in Europe and Asia, have never been formed?

We have seen that Zulu land tenure rests only on possession, and that possession on force—force of personal strength, or of will, or of sagacity, or of great possessions. But of whatever kind, the force which will secure to a Zulu his possession, whether of a single kraal, or of a kingdom, must be personal force. It cannot be transmitted by inheritance without being constantly sapped by the influence of two institutions universal among Zulus, viz., polygamy and slavery, which are always at work as dissolvents of any force which might otherwise accumulate and become the heritage of future generations. We find polygamy and slavery continually at work dissolving the cohesion of old political institutions in the ancient civilised races of Asia and Africa. In an uncivilised society like that of Zululand, they prevent such cohesion ever taking place: they help to keep the Kaffir tribes in perpetual unrest, and barbarism, by destroying the germs of civilisation, and preventing its growth.

We need not look far to find striking examples of the operation of these two causes among the Bantu races. It is hardly necessary here to illustrate at length the operation of slavery in retarding civilisation, and preventing that growth of ownership in land which is one of the characteristics, if not an essential, of civilisation. But the effect of polygamy is not so obvious, and such examples as are afforded by the history of the Metabili and Zululand Kaffirs, within our own time, may not be out of place.

Some years before the great emigration of the Boer Voortrekkers reached Natal, a large section of the Zulu Kaffirs, under a powerful chief, Moselekatze, had migrated in a north-westerly direction from Zululand, and after devastating the comparatively open country on both sides of the Vaal river, which now form some of the richest districts of the Free State and Transvaal, they had settled in the semi-tropical region north of the Limpopo, or Crocodile river. There are various accounts of the original causes of this migration. According to some, Moselekatze had quarelled with Chaka, and crossed the Drakensberg to avoid attack. Another account, confirmed by Cetewayo, states that Moselekatze was one of Chaka's favourite lieutenants, entrusted with a large army, and instructed to ravage the country of the Bechuanas and Swazis, who inhabited the upper affluents of the Vaal. Finding the open country before him, he continued the course of his devastation so far that he formed and executed a project of going on and setting up for himself, instead of returning to Chaka with the proceeds of his expedition. In the course of his forays he fell in with the advanced parties of the "Voortrekker" Boers, and engaged them more than once, with varying success, but always with results which

convinced him of the wisdom of keeping away from the path of such stubborn warriors. He finally settled in the present Metabili country, clear of the Boers, and fully 600 miles as the crow flies, from Chaka's capital. Captain (afterwards Sir William) Harris fell in with him in 1837, and visited his camp when he was about 100 miles north of where Pretoria now stands, and in his "Wild Sports in South Africa," graphically describes the barbarian conqueror, his well-trained army of Zulu pikemen, and the ruthless system of devastation which swept away every trace of the peaceful and industrious Bechuana tribes, the former inhabitants of the Transvaal plains, annexing to his hordes the younger people, as well as the cattle of the tribes he attacked, and slaughtering everything his myrmidons did not carry away.

The Boers soon after occupied the open country over which this desolating scourge had swept northwards, and after more than forty years of Boer occupation, the traces of the Bechuana cattle kraals are still to be seen in every part of the country.

Moselekatze settled down with his hordes of veteran Zulu warriors, and the cattle and captives they had acquired during their migration, at a safe distance alike from Chaka and from the Boers. He speedily drew to him many fragments of broken and weak tribes in his neigbourhood, and became a power well-known and dreaded, from the Vaal to the Zambesi. Here was a condition of things which, had the Zulus been monogamous Aryans, might have developed into a Teutonic or Hindu nation of civilised landowning warriors. What prevents such a result in the case of the Metabili? The history of the first succession to the supreme chieftanship will help us to an answer.

Moselekatze died only a few years ago. He was sagacious as well as strong-handed; but he could not avoid compliance with the general custom of the polygamous despots in that part of Africa, which forbids their wives from rearing the offspring of a great chief, lest the son, when grown to man's estate, should trouble the declining years of his father. Sometimes the rule is death to both mother and child; in other cases only to the child. Moselekatze's rule was somewhat less barbarous. A son whose mother's rank among the chief's wives indicated him as a fit successor to the chief, was conveyed away as soon as born, and carefully brought up at a distant kraal in obscurity, the secret of his birth being known only to a few trusted counsellors. When Moselekatze at last died, ineffectual search was made for Kuruman, the son who was considered the rightful heir, and it was not till all trace of him was lost, that Lobengula, another son, whose life had been preserved in a similar manner, was brought forward; but Lobengula was conscious of the superior

strength of Kuruman's claims, and after repeated refusals of the regal dignity, only consented to assume it for a year, while further search was made for the missing Kuruman.

It appeared that some years previously Kuruman had been wounded, and had lost an eye in battle, and had left the kraal where he had long been living in obscurity, and had no more been heard of in the neighbourhood of the kraal where he had been brought up.

About the time of Kuruman's disappearance, a one-eyed man, of fine stature and presence, and of good Zulu speech and manners, applied to Sir Theophilus Shepstone, who was then Secretary for Native Affairs in Natal, for employment. He took charge of Sir Theophilus's garden, and approved himself as a trusty servant, worthy of confidence in all he undertook. He would accept presents of money to buy food and clothing, as a chief's son, in another chief's kraal, would have done; but he excused himself from receiving wages as an ordinary hired servant, and gave Sir Theophilus to understand that his rank forbade his accepting anything, save the ordinary rights of hospitality between chiefs.

After he had been some time with Sir Theophilus, a party of old men, travellers from the distant Metabili, arrived in Pietermaritzberg. They were on a secret mission, as a deputation from the counsellors of Moselekatze, the late king, and the elders of the nation, in search of the lost heir to his throne, and after careful examination identified Sir Theophilus Shepstone's gardener as the long lost Kuruman. But after much discussion and consideration, he refused to accompany them, and it is easy to imagine good grounds for his declining. The year for which Lobengula had agreed to rule as regent, pending the search for Kuruman, had long passed, and even supposing that Lobengula's original hesitation was sincere, he was now confirmed as Moselekatze's successor, and in possession of power, which he was not likely to resign willingly without some more cogent reason than proof of the legitimate claims of Kuruman.

Kuruman, however, did not appear to have given up all idea of some day asserting his claims. When Sir Theophilus Shepstone went to the Transvaal, Kuruman took up his quarters at Rustenberg, sufficiently near to the Metabili frontier to occasion some anxiety to Lobengula. I have not heard what has lately become of Kuruman, but his history illustrates the imperfections of existing Zulu customs with regard to succession, when considered as a means of securing the hereditary transmission of territorial rights. Moselekatze's difficulties in recognising an heir, who should succeed to his possessions, without becoming a troublesome rival in his old age, are felt, though in

a smaller degree, by every Kaffir who has accumulated property sufficient to enable him to indulge in a multiplicity of wives.

I need not dwell on the further illustrations of the same truth, which are to be found in the comparatively well-known facts of Zulu history. The dread of rivalry, which forbade the rearing of male infants in the royal kraal, prevented the peaceful hereditary transmission of the sovereignty founded by Chaka. His murder, and that of his successor, Dingaan, might have occurred in any uncivilised tribe; but the absence of an hereditary heir to Dingaan was a consequence of the barbarous precaution to which I have alluded, which destroys the offspring of the reigning monarch. Horrible stories are told of the ruthless enforcement by Dingaan, with his own hands, of this inhuman law. These stories may not be true, but they illustrate the current belief on the subject, and a Zulu Polonius will shake his head as he relates how the non-enforcement of the barbarous custom by Dingaan's weak-minded brother, Panda, was the cause of the bloody family feuds which disturbed Panda's later years, and reduced him in his old age to a state of dependence on the forbearance and mercy of his son, Cetewayo.

The Zulu Polonius may be right as to the efficacy of the inhuman Zulu custom in securing the aged despot from rival pretenders in his old age; but this is dearly purchased at the cost of any chance of hereditary perpetuation of sovereignty in his own line. I have said that this was far less likely to have occurred among the monogamous Aryans, either of Europe or of India. But we should very imperfectly appreciate the causes which promoted the consolidation of sovereignties and nationalities in the time of the early Aryan migrations, and the formation of secure and recognised land tenures, if we did not take account of the element of religion, which so largely promoted the cohesion of families into tribes, and of tribes into nations, at both extremities of the Aryan wanderings, and which, in the process of consolidation, crystallised land tenures into many of the forms we find still prevailing in our own country, and northern and central Europe, as well as in India.

It is not necessary to dwell on the numerous influences by which Christianity tended to civilise and settle the tribes of German Aryans after they had overrun the northern European provinces of the Roman empire. We see most of those influences in operation at the present day, and we can well understand how the northern barbarians were affected, in the first place, by the general influences of a creed favourable to peace and to all peaceful virtues and motives, which forbade polygamy and discouraged slavery; and secondly, by the form in which

that creed was presented in the teaching of the organized and disciplined ministers of religion, whose declared function was not only to convert the hearts of the heathen barbarians, but to civilise and instruct them, and to teach them the arts and laws of their Roman predecessors in empire, including the land tenures, which from that time to this, have contended for adoption by statesmen and legislators against the unwritten customs and ideas of land tenure which the Aryans brought with them from Asia.

But Christianity has a special bearing on our present subject, because it is mainly through its agency, indirect as well as direct, that we may look for such changes in the customs of the races of South Africa, as may civilise and settle them, and put an end to the ceaseless wanderings which have tended so powerfully to keep them in a state of ever-recurring barbarism. Fixed individual tenure of lands, more or less approaching our own freehold tenure, is an innovation on Kaffir habits which finds as much favour with the industrious Zulu as with our own countrymen; and it has grown, or is growing up, wherever the teaching of the Christian missionary, or association with Europeans, has opened the eyes of the aboriginal South African to the inconveniences of his own tribal communism.

The study of the influence of various forms of Hindu religion, in consolidating and civilising and organising into tribes and nations the scattered social elements of the Hindu Aryans, has a different interest for us, as showing how, under certain religious influences, tenures of land and customs relating to land inheritance, which would otherwise be hardly compatible with civilisation, have been made to subserve the purposes of a civilisation almost as perfect as, and more enduring than most of, the civilisation of our own continent.

The religion of the Aryan Hindu pervades, as I need hardly tell you, every action of his life, and every ramification of his citizenship. The tenure of his lands, and every process connected with their culture, and with the application of their produce to his own use, is religious, and he is bound not to follow the dictates of his own will or judgment, but the precepts of his religion, and the yet more peremptory authority of the customs of his caste, in all relating to his land and its tenure and inheritance. It is to this peculiarity that we may ascribe not only the permanence of Hindu land tenures, but their variety. The peculiarities of tenure must, it seems to me, have preceded the imposition of the religious sanctions, and the authority of caste, which have fossilised and preserved them. On no other hypothesis can I account for the perfect and undisturbed preservation of tenures so various as those which may be found, within a

radius of fifty miles, around almost any town in the older settled portions of Aryan India.

Whether the total absence of this religious element of cohesion will alone explain the ceaseless tendency of the South African tribes to break up into their primitive elements, and repeat an incessant round of imperfectly consolidated nationalities, and perpetually recurring disintegration, may be open to question; but there can be little doubt that even an imperfect infusion of such a religion as Christianity will tend to settle and civilise races of such natural capabilities as Kaffirs, Zulus, and Bechuanas, and produce on South African soil results as permanent as those we find produced in Europe by Christianity, and in Rajpootana by Hinduism.

My own impression is that the advancement and civilization of the native tribes of South Africa depend greatly on the extent to which individual tenure of property can be extended, whilst some patriarchal authority, such as seems inherent in the head of a family or kraal, is recognised, and invested with some sort of magisterial and judicial functions, sufficient to meet the every-day exigencies of village life. Customs grow up and strengthen with marvellous rapidity in aboriginal communities, when once the tribe settles down under some sovereign controlling authority.

But these speculations as to the future lead us away from the present object of our inquiries into existing land tenures. It is possible that further search may bring to light much more than I have described as discoverable among the Kaffir tribes, viz., simple tenure by possession, controlled by the authority of chief or elders to resume or recognise possession.

As a preliminary to all such enquiries, I would recommend a careful perusal of the works of Sir Henry Sumner Maine, especially those parts which relate to the origin of land laws and tenures. In his "Ancient Law" (Murray, 1861), he has illustrated the history of ancient European codes and legal fictions regarding land, shown the imperfections and defects of the most celebrated theories regarding the origin of landed property, and clearly indicated the lines on which philosophical enquiry regarding land tenures should proceed. His "Village Communities in the East and West," is a valuable contribution to the comparative study of laws and institutions, embracing the early customs and traditions, as well as the written laws of Europe and India, especially as found in the constitution of the village communities in the east and west. He has also explained the process of feudalisation, and the early history of prices and rent. In his "Lectures on the Early History of Institutions" (1875), he has applied his scientific

method of inquiry to the early laws of the Irish and other Celtic races, to kinship as the basis of society, to the village communities of India and Russia, to the influence of the Roman, Norman, and Feudal legislation on the earlier barbaric laws, and compared the results of his inquiries with what he found in the written and customary laws of various Indian races.

Scattered throughout all these volumes are valuable hints, not only as to the method of inquiry, but as to the points on which further observation and research are necessary, to collect such a trustworthy basis of facts, as is essential to sound generalisation. The subject is one regarding which previous writers have been too prone to content themselves with theories as to what imaginary men in imaginary situations might or ought to do, and Sir Henry Maine's volumes are most valuable to the anthropologist as indicating what are the defects of information observed during an extensive course of reading, and how they may be best supplied.

These inquiries are not without interest to ourselves, at a time when many old institutions and all received theories, political or economical, are in the crucible. Inquiries into the history and effects of the land tenures we find in Africa or India, may throw much light on the practical results and tendencies of communism, and of peasant proprietorship, under the State as the universal landlord, and enable us to judge whether modern theories are likely, in practice, to lead to a higher civilisation or to bring us downwards again towards a debased barbarism.

Discussion.

The President, in opening the discussion, observed that the first ideas of property in land arose during the hunting phase of civilization when tribes monopolised certain districts as their hunting grounds. The land, however, was so vast in proportion to the population that even tribal ownerships can hardly be said to have been established. Amongst the North American Indians, Schoolcraft says that national boundaries form no impediment to the members of one nation settling within the limits of another nation's land. The tribes permit each other to hunt on their respective territories, and there is seldom any difficulty in the matter; nevertheless in some cases intrusion upon another nation's boundaries is deemed a just cause of war. Within the tribal hunting grounds the lands are not apportioned to families, but are used in common, and the proceeds of the chase are divided.

With the introduction of agriculture ownership in one form or another became more or less a necessity, but in all primitive communities it is tribal; individual ownership was not introduced until later, and rent for land later still, when the country became more

thickly populated. The tribal lands are either cultivated in common and the produce divided, as with the Sclavonic villages of the Austrian and Turkish provinces, or it was divided amongst families. In some cases, as amongst the Hindus, the lands are held by the families in perpetuity; in others, as amongst the Irish and the village communities of Russia, a fresh distribution of the land was made periodically. In Burmah, Sir Arthur Phayre says, in a paper read before the Ethnological Society, that the land is divided amongst the families of the tribe, and that owing to the quantity of land available for cultivation it often happens that a family estate remains undivided for several generations, and this is also the case with the Hindus. It cannot, however, be alienated from the family. In Fiji also the Taukai, or head landowner of the family, cannot alienate the land from the tribe to which it belongs: it is the property of the whole and not of individuals.

Amongst the Nahua nations of Central America, Bancroft says that besides the land belonging to the Crown and the nobility, held under a kind of feudal system, there are the lands of the people, which are the property of the class or tribe, and which cannot be alienated from the tribe. The Sclavonic laws prohibited alienation of the common lands, and the German and Hindu laws made it impossible without the consent of the children.

Except among the Hindus, where Sir Bartle Frere tells us its permanence is to be attributed to religion, this common occupancy of land appears never to have been lasting, and led either to disintegration, as amongst the African races, or to some feudal system of tenure, as with ourselves. It gave rise to incessant feuds. This must have been the case in Ireland, where every homestead was fortified with a rampart and deep ditch, and contained subterranean chambers for the concealment of treasures. I have counted as many as 10,000 of these fortified raths still existing and distributed over the most fertile parts of the country in Munster alone, at the time the Ordnance Survey was made. In Fiji fighting was considered the legitimate way of settling disputes about land. Mr. Fison, in his communication to the Institute, says that when a fight took place, the chief generally inquired what it was about, to see whether it was his business to interfere, but when told that it was about land the usual reply was, "Very well, that is all right." Either individual ownership was introduced by conquest or the chiefs gradually assumed proprietorship. This, according to the report of Lord Bessborough's Commission, was the case in Ireland before the English settlement, when the chiefs had become owners and dealt with their followers as they pleased. In Fiji, also, a feudal system was growing up at the time of our taking possession of the Islands, and some of the land appears to have been sold to the Government by the chief.

We shall probably see that the history of progress in land tenure throughout the world has consisted in a tendency to substitute absolute ownership for joint ownership, or, to use the words of Sir Henry Maine, in the gradual disentanglement of the separate rights

of individuals from the blended rights of the community, and in abolishing the trammels, as well as the privileges, which surround the tenure of land, and laying it open, like all other property, to the operation of supply and demand and free contract. Further, we shall see that the law of the survival of the fittest holds good in this as in all other branches of human culture and industry, and cannot be interfered with without prejudice to the progress of civilization.

In addressing ourselves to the study of this subject we shall find that in this, as in all the institutions and arts of mankind, existing communities are to be found in every stage of development from the earliest to the most advanced, and which, *mutatis mutandis*, may be studied as connecting links in the chain of progress. In doing this the anthropologist has no occasion to trench upon politics. He approaches the subject without bias arising from the desire to catch votes; he has neither seats to retain nor seats to be wrested from others; and he is free to judge the whole question upon its merits without feeling of party. Nor, in my opinion, should the labours of the anthropologist cease when he has traced the history of past progress. Our materials for generalisation are, or ought to be, drawn from a much wider area than usually falls to the consideration of political men, and there is no reason why our experience in social matters should not be brought to bear upon topics of the day. What is the use of such studies unless they have some practical results? If, for example, it is found that the whole history of land tenure has tended to the development of absolute ownership it is open to us to form an opinion whether that development is likely to continue, or whether there is anything in the existing condition of things which should make us retrace our steps and revert to the principle of joint ownership. If it is found that land has been brought more and more under the operation of free contract in the past, we are free to consider whether the whole channel of social progress is so changed that we must now abolish free contract and regulate the relations between man and man upon a system that prevailed in a primitive condition of society.

These are questions which fairly fall within the social department of our science, if it is to be regarded as a progressive science, having something more than archæological aims and aspirations.

Dr. Rae remarked that the distinguished chairman had mentioned the opinion of Mr. Schoolcraft (one of the very highest authorities on all matters relating to the North American Indians), that tenure or possession of lands is held only by a tribe, and not subdivided among families or individuals. This the speaker presumed to be perfectly true as regards the Prairie Indians, who depend, or *did depend* in Schoolcraft's time, for subsistence chiefly on the buffalo. These animals, being both migratory and gregarious, had to be followed by any or all the Indians of a tribe to any part of the lands belonging to them, and not unfrequently into the possessions of their neighbours.

For similar reasons the lands lying north of Great Slave Lake,

and the great barren lands to the north-east, frequented by the reindeer, are hunted over by the whole of a tribe indiscriminately and not subdivided.

Among the Wood Crees, however, and the cognate tribes extending to near the coast of Labrador and the Gulf of St. Lawrence, occupying many thousands of square miles of wooded country, each family or head of a family has his own hunting grounds, almost as well defined as the estate of a landed proprietor in this country. The speaker was unable to explain the laws or rules by which these possessory rights are governed, but he believed that ownership passes from a father to his sons, the eldest, if moderately intelligent and a good hunter, being looked upon as the head of the family. If the lands were not subdivided, the hunting of the finer kinds of fur-bearing would be constantly interfered with, the beaver houses broken down, and the beaver killed at all seasons, as it would be no one's special interest to protect them.

The subdivision of hunting lands among families has been, as far as the speaker knows, left wholly in the hands of the Indians themselves, with no interference on the part of the Hudson's Bay Company.

Mr. Hyde Clarke said that in the interesting disquisition of Sir Bartle Frere there was a prominence given to the religious sentiment, which was not perhaps carried far enough. The origin of property is not in land tenure, but before it in individual property of any kind. The sanction of a religious rite in the shape of *taboo*, in many cases consecrated the property to individual use, more especially by excluding extraneous influences. Either directly or indirectly this religious sentiment greatly affected land tenure, whether in the shape of temple lands in India, Palestine, Babylonia, Asia Minor, or Southern Europe, or whether in the shape of Abbey and Church lands in the middle ages, not excluding dedications of property under Mussulman law. It may be that those connected with India naturally give too much prominence to the village system, whereas many other circumstances have to be considered in the growth of land tenure.

Miss Buckland stated that she had heard a lecturer upon the Transvaal speak of having frequently seen in that country huts, square in form, and built of stones uncemented, the builders and former occupiers of which had entirely disappeared, having been either annihilated or driven away by more warlike hordes. She wished to know whether Sir Bartle Frere knew anything about these huts and their builders, as it appeared to her that, from their difference in form and material to the present Kaffir huts, they must have been constructed by another race, and one less nomadic in habit than any of the Kaffir tribes now known.

Sir Bartle Frere, in reply to Miss Buckland, said that her informant had apparently very accurately described the constant

occurrence of stone foundations of huts and cattle kraals, which are to be found on the tops of the low hills and rising ground bounding the good pasture grounds in most parts of the Transvaal and Orange Free State. These stone inclosures are said to be the remains of the habitations of the Bechuana population expelled, absorbed, or destroyed by the Zulus, under Moselekatze and other Zulu chiefs, who passed through the Transvaal, in Chaka's time, on their way to the North, where they finally settled beyond the Limpopo river, as the Matabili Zulus.

It is clear, from the statements of Burchell (1811 to 1820), and the missionaries, Moffat, Livingstone, and others, that these Bechuanas were more civilised and settled, and were more industrious, when we first came in contact with them, than any native tribe in South Africa. They were skilful workers in iron and copper, and their houses, frequently built on stone foundations, with perpendicular side walls, were larger and more commodious than the best Kaffir huts. They had long occupied the whole of what is now the Transvaal and Orange Free State, as well as the present Bechuanaland, where they have for the last half-century had the missionaries of the London Missionary Society labouring among them at Kuruman and elsewhere. The Bechuanas have greatly improved in an industrial and social, as well as in a religious and moral, point of view, under the teaching of the missionaries, and now possess farms and farmhouses, wagons, &c., as well as cattle, and are all more or less fully clothed: many can read and write, and have acquired considerable property.

This was in Bechuanaland, to the west of the Transvaal. From the Transvaal itself they had been almost entirely cleared out by Moselekatze and his Zulus, and had been either forced to join the Matabili hordes, or had been driven into exile in the mountains to the east and south, or they had been slain.

Captain (afterwards Sir William) Harris, who traversed part of the Transvaal about forty years ago, describes, in his "Wild Sports in South Africa," the ravages of the Zulu invaders. He saw not only the remains of foundations of huts and cattle kraals as we now see them, but the bones of the recently slaughtered inhabitants.

It was characteristic of South Africa that the Boers, and other European races who now occupy the Transvaal and Orange Free State, are in fact the third race which has occupied that territory within living memory—viz., first the Bechuanas, then the Matabili Zulus, and now the Boers. Instances like this illustrate the difficulty of any continuous possession of land, such as might in time lead to the establishment of fixed land tenures.

On the motion of Professor FLOWER a vote of thanks was accorded to the President and Mrs. Pitt Rivers, for their kindness in inviting the Members of the Institute to hold the meeting at their private residence.

The following note was communicated by Dr. Parker, subsequently to the reading of Sir Bartle Frere's paper:—

On SYSTEMS *of* LAND TENURE *in* MADAGASCAR.

By Dr. G. W. PARKER.

AS the numerous tribes which inhabit Madagascar are divisible into two distinct classes, according to their origin—*Hova*, or Malay, and *non-Hova*, or African—the former having had more European ideas infused into them than have most of the latter, it will be advisable to consider them separately.

I. Among the Hovas, *slavery* is the key to the system of land tenure. Just as a slave can do or have nothing except in accordance with the will of his owner and master, so the Hova Sovereign claims the same power over her land and subjects.

All lands, whether cultivated or not, belong to the Sovereign, whose rights are as follows:—

(1) The power to turn out a tenant at the Sovereign's pleasure, without any warning, and without any compensation for improvements made therein or buildings erected thereon.

(2) The power to refuse permission for a tenant to give up or exchange his holding, or to shift it to another place.

(3) The tenant can do nothing with his land (except build or plant) until he has first notified his intention to the Sovereign, and received permission.

There are three distinct taxes which land-tenants are obliged to pay annually, viz.:—

(*a*) The first-fruits of all crops, especially of rice, the chief crop.

(*b*) A certain quantity of rice in the husk.

(*c*) Spade or other manual labour, such as preparing the Queen's rice-fields, making roads, embankments, or public buildings, &c.

A slave-owner usually makes his slaves take his place in all laborious work.

Briefly stated, a Hova title rests upon possession, and that possession upon the pleasure of his Sovereign, who may resume possession at any moment. The lands are *not* held on the feudal condition of serving in war, nor are they subdivided among the vassals of the more powerful chiefs; but every Hova subject (unless he be a slave or incapacitated by disease or infirmity) is obliged to serve in the standing army, such service being, by a recent edict, limited to a term of five years.

Such is the purely native system of land tenure, probably brought from Africa in pre-historic times; but the following modifications have been effected in it by European influence:—

(1) The tenant is not often (at least in the town of Antanànarivo) evicted without some compensation, although the compensation may sometimes be more nominal than real.

(2) No Hova subject can sell land to a foreign subject, whether possession be given at once or promised at a future date.

(3) The Sovereign alone can *sell* land to foreign subjects, although Hova subjects may (and *do*) *let* land to such; and the Sovereign alone can let any of the forest or waste lands even to a Hova subject.

(4) All agreements, and renewals of agreements, must be registered; because the State now taxes the landlord to the extent of five per cent. of the rent annually.

(5) All agreements, when expired, are renewable at the pleasure of the contracting parties.

Local Modifications of Land Tenure in the Hova Dominions.

As the town of Antanànarivo is built upon an isolated cluster of hills, which form a large and irregular-shaped promontory in the midst of what are now rice-fields, but (within the present century) were only wide marshes, the home of the crocodile and the wild-boar; we should expect that when the rivers which run through these level valleys were confined to their present channels by embankments, each man who helped to build these embankments might reasonably look to be rewarded with a share in the lands thus reclaimed. From inquiries made while in Madagascar, I find that such was indeed the case, especially with the wide expanse of rice-fields, called *Bètsimitàtatra* ("*so large that it cannot have drainage ditches cut through it*";—but it *has* one or two), to the west and south of this town; indeed several persons are still living who helped to build these embankments, the last of which was finished scarcely fifty years ago, as I have heard from the late M. Laborde, French Consul at Antanànarivo, who lived in Madagascar for more than forty years. At present the owners of these lands are subject to the usual taxes already mentioned, besides the special duty of repairing any breach in these protecting embankments.

With regard to land for the *sites of the Martyr-Memorial Churches in Antanànarivo*, the *use* of the ground was given in perpetuity, free of all taxes, because the buildings would be not only memorials of persons worthy of honour, but also useful and ornamental; but the *ownership* of the ground on which they are built still belongs to the Hova Sovereign.

With regard to *land for other missionary purposes* (such as a

dwelling-house, school, or hospital)—these being for the benefit of the Malagasy as a nation, and not intended to enrich the missionaries personally—the land is often held practically rent free, "so long as it may be required for that purpose, after which the land (with everything on it) reverts to the Sovereign"; the only acknowledgment of the Sovereign's ownership being the annual payment of a small sum of money, sometimes only one dollar (4*s.*), to the local governor, or other representative of the Sovereign, by the representatives of the Missionary Society which holds that land.

With regard to *land for burial purposes*, as there are no public cemeteries in Madagascar, and as graves are held sacred and inviolate (chiefly through fear, lest the ghost of the dead occupant be aroused to take vengeance), the ground on which a tomb stands, whether that of a Malagasy or of a foreigner, may be regarded as belonging to nobody: or, as the new Hova laws (Law 128) state the case, "*Land containing a tomb cannot be sold, ... for . . . . he who cannot sell* (*i.e.*, the dead) *is its owner.*"

II. Among the non-Hova Malagasy—who occupy by far the greater part of Madagascar, and among whom fetishism and witchcraft, slavery and polygamy, are more openly practised than among the Hovas—"land tenure rests only on force, and that force on possession," to quote the words of Sir Bartle Frere when speaking of *Zulu* land tenure at the last meeting of the Institute. Indeed I feel that no better or more expressive words can be found, in which to close the subject of land tenure in Madagascar, than the following words of Sir Bartle Frere, substituting only the word "*Malagasy*" for the words "*Zulu*" and "*Kaffir.*"

"Malagasy land tenure rests only on possession, and that possession on force—force of personal strength, or of will, or of sagacity, or of great possessions. But of whatever kind, the force which will secure to a Malagasy his possession, whether it be of a single kraal" (*i.e.* hamlet) "or of a kingdom, must be personal force. It cannot be transmitted by inheritance without being constantly sapped by the influence of two institutions universal among Malagasy, viz., polygamy and slavery, which are always at work as dissolvents of any force which might otherwise accumulate and become the heritage of future generations. We find polygamy and slavery continually at work, dissolving the cohesion of old political institutions in the ancient civilised races of Asia and Africa. In an uncivilised society like that of Madagascar, they prevent such cohesion ever taking place: they help to keep the Malagasy tribes in perpetual unrest and barbarism, by destroying the germs of civilisation and preventing its growth."

Besides the essential similarity in their systems of land tenure (as well as other links too numerous to mention here), there is another link between the Malagasy and some of the African tribes which Sir Bartle Frere mentioned, viz., "*the traces of the cattle kraals still to be seen in every part of the country,*" desolated by Moselekatze. He stated that these were square enclosures, surrounded by walls of rough stones. In Madagascar, the shape of these cattle-pens, when permitted by the nature of the ground, is either square or semi-circular; when it is of the latter shape, the houses forming the village or hamlet occupy the remaining semi-circle of ground.

JUNE 13TH, 1882.

Major-General PITT RIVERS, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From the AUTHOR.—The Separate System of Sewerage. By Geo. E. Waring, jun.
From the GERMAN ANTHROPOLOGICAL SOCIETY.—Archiv für Anthropologie. March, 1882.
From the ACADEMY.—Atti della R. Accademia dei Lincei. Vol. VI, Fas. 11, 12.
From the ASSOCIATION.—Journal of the East India Association. Vol. XIV, No. 2.
From the INSTITUTION.—Journal of the Royal United Service Institution. No. 115, and Appendix to Vol. XXV.
From the SOCIETY.—Proceedings of the Royal Society. No. 219.
—— Journal of the Society of Arts. No. 1540–42.
—— Bulletin de la Société Impériale des Naturalistes de Moscou, 1881. No. 3.
—— Proceedings of the Royal Geographical Society. June, 1882.
—— Proceedings of the American Philosophical Society. No. 109.
From the EDITOR.—"Nature." Nos. 656–658.
—— Revue Scientifique. Tom. XXIX, Nos. 21–23.
—— Bulletino di Paletnologia Italiana, 1882. Nos. 4, 5.
—— The Field Naturalist and Scientific Student. June, 1882.

Mr. MANN S. VALENTINE exhibited some sculptures and photographs from North Carolina, and Mr. A. H. KEANE read the following note:—

On NORTH CAROLINA STONE CARVINGS.

By A. H. KEANE, B.A.

I HAVE been asked somewhat unexpectedly to draw the attention of this Institute to what I am tempted to characterise as one of the most surprising archæological finds ever made in the New World. Mr. M. S. Valentine, the fortunate discoverer of these treasures, has just arrived in London with the few specimens now lying on the table. Some idea of the general character and great variety of the objects may also be formed from an inspection of the accompanying two albums, containing numerous well executed photographs of the more typical objects in his collection. In submitting these things to our consideration, he desires me to say, that his sole aim is to obtain the opinion of English anthropologists on their origin, nature and scientific significance. On these points he has himself been unable, after much study, to arrive at any definite conclusions. Previous exploration, extending over many years, especially amongst the remains of the mound builders in the Ohio valley and elsewhere, has convinced him of the absolutely unique character of the finds. Feeling that on this ground they may naturally give rise to the suspicion of fraud in some quarters, he asks me to assure the Institute that he has taken every imaginable precaution, both for his own personal satisfaction, and in the interests of science, to guard against the possibility of imposition of any sort. In fact, the only practical conclusion he has yet come to is that, whatever theories be advanced as to their *provenance*, the finds themselves are at all events perfectly genuine. My own duty in introducing them to your notice this evening will perhaps best be discharged by first reading the answers to a few searching questions which I have to-day put to Mr. Valentine, and then giving you such information regarding the ethnical relations of the region where the objects were dug up, as is at my command at this short notice. In doing this I shall abstain from all theorising, which at this stage of the inquiry would necessarily be premature. My remarks will aim rather at supplying a few data calculated to direct inquiry in the proper channel for arriving at a solution of the many perplexing difficulties, which these startling discoveries cannot fail to suggest:—

Exact position of the district?—Haywood County, North

Carolina, in the cross chain of mountains, between the Blue Ridge and Alleghanies.

Its extent in square miles?—The main finds have been restricted to the spurs of Mount Pisgah, but specimens have been found 15 miles distant from this mountain.

Its ownership?—The mountain spurs referred to belong to an old settler, now living—his children and grandchildren—and have very little value except for the original growth of oak and walnut timber on them, which until very recently could not be transported to be utilized.

How far settled by Europeans?—In 1700 Lawson surveyed the province of Carolina, for Great Britain; he found this country a wilderness. In 1773, Bartram, "at the request of Dr. Fothergill, of London, searched the Floridas, and the western parts of Carolina and Georgia, for the discovery of rare and useful productions of nature, chiefly in the vegetable kingdom." He describes the country as in forest, with a trading path through it. From Savannah, Georgia, as a trading centre, and having peace with the Cherokees, the white settlers of Europe gradually, as they could safely, advanced into the valleys; the poorer class of settlers acquired the mountains, which, being unproductive, the people dwelling on these wooded uplands to-day are poor and ignorant, living, as I have seen them, whole families of two generations in one log cabin.

What first attracted Mr. Valentine's attention to the spot?—The discovery of forms of stone implements which were very rare, in the valleys and along the streams from time to time flooded.

Period over which his discoveries were extended?—Over three years, 1879–80–81–82.

What hands employed by him, their number and capacity for the work?—Enlisting the interest of an intelligent farmer, as an agent to superintend the work and pay labour; he employed the mountain people, some of whom cultivated little patches of ground, but the majority were ginseng hunters, whose peculiar business made them familiar with all the mountain recesses.

The circumstances attending the very first find, date of the occurrence?—In 1879, one of the parties, a woman, whom my agent had employed to hunt for the object, brought him a stone cup; this he sent to me, and I determined at once that we had a new character of work. He was directed to employ hands, and following up the gully, thoroughly examine for finds, preserve and forward to me. Very soon after I received more cups, birds, animals, and men carved in stone. I, of course, proceeded to exhaust the whole place, and, moreover, seek others.

What prospect of other researches?—There have been com-

paratively few objects obtained during the past eight months. The hands insist on it that they can no longer find them, or so rarely find them that they are not remunerated for their labour. Nevertheless, I have sought to increase the personal exertions of my agent—caused him to travel for hundreds of miles over the adjoining country. He has obtained himself, and others have also found, a large number of stone implements, but outside of the area of perhaps 15 miles, there have been discovered no stone images or stone pottery.

At what point is the district conterminous with the area of the mound builders?—The mounds are found in the valleys and on the streams throughout the country. I have not found them on the mountains.

Any remains of a simpler type, celts, arrow heads, &c., showing a continuous evolution up to the works of an artistic character?—Celts, arrowheads, &c., are found in abundance through the valleys; they are in a large measure considered as pertaining to the surface, with some exceptions. These do not occur with the stone images and pots, but some appear to be, to a limited extent, connected by markings with them.

Any human remains?—None with the stone images and pots.

If graves, of what character?—There are two classes of graves—stones simply thrown on a body, this body accompanied by arrowheads. Another class, of pits sunk in the hillside, faced around with stone slabs.

Nature of the soil—had it been previously disturbed?—Micaceous earth—at one point it had been ploughed about thirty years ago, and proving unproductive left fallow. At another place it had been cultivated about three years, and had a very large crop of corn on it when I was there.

How far below the surface were the objects generally found?—One and a-half to two and a-half feet deep on the hillside, and much more at the bottom of the hills, where they had been washed down from above and covered with much débris.

Any tools among the finds or trace of metal implements?—None.

The whole collection, which, I may remark, has been seen in Richmond by Captain Galton, Mr. Robinson, and one or two other English archæologists, comprises altogether about two thousand objects. About one-half are in pottery or micaceous schist, the great bulk of the rest in steatite, or soap-stone, a material abounding in the district. They seem to consist of three separate categories. First we have human and animal figures, either in the round, or in various degrees of relief, carved

on the stone. The human figures are nearly all of a uniform type—round, regular, though somewhat flat features, totally distinct from the ordinary American Indian, with a mild, placid expression, almost suggesting that of the Chukchis of north-east Siberia, but more intelligent. All are invariably clothed in a close-fitting, well-made garment, reaching from the neck to the feet. Some are erect, some seated in an arm-chair, in form not unlike that known as the "Ingestre chair" in England, some riding without bridle, saddle, or stirrups, on animals which cannot be readily identified. The animal figures representing such as are indigenous to the country are remarkably well sculptured, most life-like, true to nature, and well proportioned. Conspicuous amongst these are especially the bears and bisons, in various attitudes, the gloating expression of one of the bears devouring his prey being admirably conceived. There are several birds, which are difficult to recognise; but far more perplexing are some of the quadrupeds, which at first sight might seem to be rude representatives of the two-humped Baktrian camel, the hippopotamus, rhinoceros, and other Old World mammals. But what looks like a camel may more probably be intended for a llama, reports of which animal may have travelled from South to North America. The other quadrupeds also are too uncertain to be positively identified with any peculiar to the Eastern Hemisphere, and may perhaps be fanciful or even caricatures, for of caricature there seems to be undoubted evidence. This is in fact one of the points in which a certain analogy may almost be detected between the North Carolina finds and those recently brought to Europe by Messrs. Reiss and Stübel from the Ancon Necropolis on the coast of Peru. But beyond this feature there is absolutely nothing in common between the objects found in these two widely separated regions. One of the figures seems at first sight to represent an angel of a certain conventional type, with out-spread wings. But, on a close inspection, the feathered quills prove to be merely ornamental markings of the ordinary kind.

The second category comprises numerous household utensils, such as cups, mugs, with or without handles, basins, dishes of various form and shape. Amongst the cups are some which are too small for ordinary use, and which may have been intended for toys or children's playthings. To this class may also be referred the pipes, which are very numerous and of elegant shape. Some of these pipes are evidently made to be smoked in common, being pierced for two, four, and even eight stems, while the bowl increases in size with the number of stems for which it is adapted. That such a social system of smoking should have

been devised in a region where the tobacco plant is indigenous, is not without significance.

In the third category may be included all the other miscellaneous articles, illustrating the tastes, usages, and general culture of the mysterious race by whom they have been executed. Amongst them is a very remarkable object, of which as many as three specimens occur, but the purpose of which it is difficult at present to conjecture. It consists of a snake-like head descending from above down to a sort of cavity in the centre, with an unintelligible motive in front, possibly representing the domestic hearth and its tutelar deity. The whole is carved out of a single block, the back of which is smooth, or else scored, like most of the other articles, with regular ornamental lines, produced apparently by drawing some regularly toothed implement across the surface of the soft stone. This strange object is almost the only one possibly pointing at a religious cult. All the rest, with two or three exceptions, illustrate a quiet, peaceful state of society, to which warlike habits might seem to have been as unknown as they were to the natives of the Lu-Chu Archipelago, when they were visited by Captain Basil Hall, early in the present century. Knives or other cutting weapons occur, but they are used only in slaying the quarry. Children, and even animals at play, are frequently represented; hunting scenes are also figured in a graphic manner, the various incidents of the chase being described by a series of reliefs following consecutively round the several surfaces of the stone. It is noteworthy that these natural surfaces of the stone are in all cases utilised to the utmost, being covered either with figures in relief of the various kinds here specified, or else, where the available space was too limited, with ornamental strokes. These strokes scored on the narrow edges produce somewhat the effect of Runes or Ogham inscriptions, with which, however, they have nothing in common. They are purely ornamental, the same simple forms being repeated monotonously over and over again without any variety that might remotely suggest written characters.

The few exceptions to the general pacific type consist of the red Indian, figured in the usual way with plumed head-dress, and tomahawk, riding on horseback, and in one case even armed with a rifle. But these are obviously of recent date, and are very rudely executed, consisting in fact of mere surface scratchings or outlines without any pretence to artistic workmanship. Beyond the circumstance of their discovery in the same locality, they have nothing in common with the genuine stone carvings of the Appalachian image-makers. These carvings present the noteworthy peculiarity that, whatever be

the subject, whether figures, utensils, implements, or purely fancy articles, all alike are invariably made to stand firmly on one end. This might point at the use of shelves or stands in the houses of the people by whom they were executed. Collectively they present, so to say, a unique school of art, differing in its main features and details from anything that has yet been discovered in the Old or New World. Its special characteristic seems to be, that it presents, as it were, within the stone period, a skill and perfection in sculpture, such as has elsewhere been achieved and surpassed only in the metal age. Some of the carvings of the European palæolithic men are very admirable. But they are all mere surface drawings, scratched or slightly incised in the bone of the reindeer they so graphically portray. Here, on the contrary, we have statuary work, executed in the stone directly from nature, presumably without any previous plaster casting or clay modelling. Yet this work often attains a perfection of finish, proportion, and expression, which would do credit to any European stone carver.

When and by what race was this work done? At the time when the white man made his appearance on the scene, the region where these objects were found formed a sort of debatable land between several Indian tribes, belonging to at least four distinct stocks. The *Algonquin family* was represented by the Powhatans and others in Virginia, and by the Panticoes in North Carolina, these last marking the extreme southern limit of that family in historic times. The head-waters of the Virginian rivers, and parts of North Carolina, were occupied by the Nottoways, Tutelos, Tuscaroras, and other members of the Monahoac (Monacan) branch of the *Iroquois family*. Of these the Virginian Tutelos and the North Carolina Tuscaroras afterwards migrated northwards to New York, where they joined the Iroquois Confederacy. The *Cherokees*, who formed a distinct group, differing in speech and some other respects from all the rest, held the southern spurs of the Appalachian Mountains (parts of Tennessee, Georgia, and Alabama), whence most of them have since been removed to their reserve in Indian territory. Lastly the Muscogulges (Creeks), a powerful branch of the *Appalachian family*, had penetrated from lower Alabama and Georgia northwards to the neighbourhood of the Cherokee domain. With these may here be associated the mysterious Catawbas, of doubtful affinity, whose name is preserved in the Catawba river, and Catawba County, North Carolina. Whatever their origin,[1] these have since become extinct or absorbed

[1] By some writers the Catawbas have been identified with the Eries, or the "Neutral Nation," who were partly exterminated by the Iroquois. The sur-

in the Choctaws and Chickasaws, also members of the old Appalachian confederacy, but now settled in Indian territory.

But all these Indian races seem to have been comparatively recent arrivals in the Appalachian uplands, where they had exterminated or absorbed the mound builders, and other more civilised peoples, of whom they had traditions. Amongst these extinct peoples were the *Alleys*, or *Alleghewys*, whose name survives in the *Alleghany Mountains*, and who are traditionally supposed to have been driven, some 900 years ago, from the Upper Mississippi Valley southwards and eastwards to the Atlantic coast ranges. This would bring them to about the very spot where the stone carvings have been found. And in these secluded upland valleys they may have possibly either continued, or developed, a peculiar culture now for the first time brought to light by the Mount Pisgah finds. In their vague traditions the Algonquin conquering tribes speak of the Alleghewys as a superior race to themselves, and as different from the surrounding Indian hunting races. If the stone carvings are to be attributed to them, this would account for the very distinct type, and other peculiar characteristics of these objects. The question would then remain, who were the Alleghewys themselves? Were they distinct from, or allied to, the mound builders? Are their affinities to be sought for among the New Mexican Pueblos, or the Anahuac Toltecs, or the Mayas of Yucatan? Or are they to be traced to some remote European migration, anterior even to that of the Norsemen, and all records of which have long perished. Meantime all that can be said is, that another disturbing element has been added to the complex subject of American anthropology by these North Carolina stone carvings.

Discussion.

Mr. John Evans agreed with Mr. Keane as to many of the objects showing traces of European influences. Not only was a gun represented, but there appeared to be figures of an angel and of a coffee-pot. It seemed to him, moreover, that the whole of the objects had been manufactured with metal tools; and even assuming them not to be all of one age, he saw no reason for regarding any of them as really ancient.

The President remarked that although the entire good faith of the gentleman by whom these objects were exhibited was beyond doubt, yet he thought it was only fair to say that the evidence before them seemed insufficient to establish either the genuineness,

vivors are supposed to have migrated southwards to North Carolina, and it is remarkable that the name still occurs as a geographical term at various points in Ohio and Kentucky, along their presumable line of march.

or still less the antiquity, of the carvings. Indeed, it was obvious that some of them were modern: the occurrence of a gun, a coffee-pot, a chair, and other objects of modern European workmanship, were alone sufficient to prove this. The rude and unconventional character of the carvings also distinguished them from most of the products of early American civilisation. It is quite possible, however, that they may have been made by some tribes of Indians in contact with Europeans; and the fact of their being found at from a foot and a-half to two feet beneath the surface in the lower parts of the hill-sides is no obstacle to the adoption of such a view of their origin.

The following paper was read by the Director:—

NEPOTISM *in* TRAVANCORE.

By the Rev. S. MATEER, F.L.S.

THE indigenous inhabitants of the Malabar Coast may be referred to three principal classes—Brahmans, Náyars, and the various low castes. For some four or five hundred miles along the coast northwards from Cape Comorin, the mass of the population speak Malayálam, and have strange customs and characteristic laws of their own. Having been driven by successive waves of immigration to the very extremity of India, and being both protected and hedged in by the great range of the Western Ghauts running parallel with the coast at an average distance of some fifty miles, these races retain very primitive and semi-civilised usages and peculiar practices. Amongst these may be named polyandry, polygamy, and nepotism in domestic economy; demon-worship and Brahmanism in religion; and the institute of caste in its most rigid form.

The law of Nepotism—by which relationship is traced obliquely, only through the female line—so that not one's own but the sister's children are regarded as the nearest heirs—can only be understood, and its origin investigated, by first examining the marriage and inheritance laws of the Malayálam Brahmans, or Nambúris, and those of the Malayálam Sudras, or Náyars, both of which are inseparably connected and interdependent.

The NAMBURIS and other Malayálam Brahmans are the special priests of the Malabar Coast, and are regarded as most sacred. None of them reside in South Travancore, which is only visited by them from time to time for the celebration of religious festivals and ceremonies for the kings and temples. They are extensive landowners, often possessed of much wealth.

The family property is owned and enjoyed in common by all the members of the family; and to preserve this intact for the general welfare and protection, a kind of law of entail is observed. In order that the family property may descend undivided, the eldest son alone is permitted to marry, the younger sons being only provided with subsistence, and obliged to form temporary connections with Sudra and other females of inferior caste, who abide in their own ancestral dwellings, with whom, however, these Brahmans cannot, on account of caste, eat food, and whose children, being by Hindu law, of necessity, illegitimate, can only be supported by, and inherit property from, their mothers' brothers.

The law by which property descends to heirs of the body is called *Makkatáyam*, or "children's inheritance"; that law by which the nephews of Náyars are their heirs is called *Marumakkatáyam*, the term *marumakkal* being used for nephews, or sometimes for sons-in-law, from *maru*, to dwell or fondle—those who reside with one, and are affectionately treated as his own children.

The following summary of the laws of the Malayám Brahmans relating to marriage and inheritance, is taken, in substance, from a native work by G. Kerala Vurma Tirumúlpád, one of a class who profess to be Kshatriyas, and who usually consort with the royal family of Travancore:—

"Parasu Ráman ordained that only the eldest son in a Malayálam Brahman family should marry. How then are the younger sons to attain heaven without children to perform the necessary ceremonies on their behalf? Manu says: 'If there be several brothers, the sons of one brother can perform ceremonies for all,' so the sons of the eldest brother may do among the Nambúris.

"If the eldest son be without issue, he may marry one or two additional wives; but the younger brothers must not marry. The wives, so long as they do not disagree, live together in the same house; if the eldest brother still have no children, or die without issue, the next in succession may marry, and so on.

"Though the wife be alive, and have children, yet if the Brahman is unable to meet the expense of giving his sisters or daughters in marriage, he may, in exchange, take one or two additional females, as wives, from the family to whom he gives wives. Thus accounts will be balanced. Yet however many wives he may have, only one among their children can marry; and that according to seniority of birth, not of the mother's marriage.

"If in a poor family there be four or five virgins, the eldest son in another family cannot, according to Dharmma Sástra, marry

more than three of them in exchange, but may consent to one or two of his younger brothers marrying; but should the younger brother have issue before the elder, the order of seniority of such issue shall not be that of the fathers, but of the children themselves.

"The general rule is that girls should be married before arriving at maturity. But as only one man in a family is at liberty to marry, available husbands are scarce and women plentiful, so it is customary to marry after maturity; and many women are left to live and die in celibacy. Widows are never permitted to re-marry. Marriage of a female after puberty involves the payment of a considerable dowry to the husband.

"Should a Malayálam Brahman die without issue or relatives, leaving a widow and an unmarried daughter only, the widow may cause another Brahman to perform the funeral mourning and oblations for her late husband, and may, in order to continue the family, give him her daughter and the whole of the property.

"If an elder brother die leaving only an unmarried daughter, the next younger brother should marry to perpetuate the family. The orphan daughter is not to be given in marriage with the whole of the property, but merely with a fair portion.

"Division of family property is forbidden among these, and is not practised. The eldest brother is to see that no loss is suffered by the family; the younger brothers are to remain unmarried, to aid the increase of the family estate as much as possible, and to honour and obey the elder like a father. The eldest alone has authority over the family and the property; the younger sons have merely daily subsistence (for which they may sue at law), and the property can never be divided.

"But if the family be numerous, and one brother wishes to separate and live apart, the *káranavan* (elder brother or manager of the united family) should give him a share sufficient for food and clothing, &c., or may make a regular allowance for this.

"Those who can claim support from the common fund are—(1) all the males of the family; (2) their wives; (3) their virgin daughters and sisters; (4) widows—and this for the last two classes only while residing in the house."

Sudras or Chetries have sometimes to pay heavily for engagements with men of higher caste to consort with their families. The nieces of the Cochin Rajahs, whose male children succeed to the throne, form such morganatic alliances with the Nambúris, who, however, lose to some extent in caste, and forfeit all ancestral privileges; and, becoming dependent on their new connections, receive in compensation large marriage portions and

separate establishments at the palace. The nieces or sisters of the Travancore royal family intermarry with Chetries only, and this seems to be the sole reason why the Cochin Rajahs are admitted to be superior in caste to those of Travancore: the former manage to procure Nambúri Brahmans as consorts; the latter only Chetries of the class called Coil Tamburán.

The Malayálam Sudras, of whom the better class are called NÁYARS (or lords), are the bulk of the respectable population—the landholders, farmers, soldiers, officials, and rulers of the country. There seems reason to believe that the whole of the kings of Malabar also, notwithstanding the pretensions set up for them of late by their dependents, belong to the same great body, and are homogeneous with the mass of the people—if, indeed, the so-called Brahmans of the Western Coast are not also of identical origin.

Náyar customs admit of no real marriage—nothing, in fact, that can rightly be called marriage, the trivial bond being dissolvable with a word at the will and pleasure of either partner. Such a temporary association (or concubinage), even if it should be continued till death, as it sometimes is (the people being often better than their laws), cannot in any proper sense be dignified by the sacred name of marriage, though in such cases the union may have much of the effect of marriage through the mutual affection and fidelity of the parties.

The females of a wealthy Náyar family, especially where there is but one sister, are visited at their own homes by Brahman paramours, or by persons of their own caste; and their children are reared up in the same house, and inherit from their mothers' brothers, as the fathers have nothing of their own to give them. Females of poorer and less fashionable families go to reside with partners of their own caste, so long as they agree together, or permanently: the average duration of such unions happily is increasing through the spread of civilisation and enlightenment.

There is, indeed, a ceremony called "marriage," which is performed in the infancy or childhood of every Sudra girl; but it is the merest pretence—never consummated as a marriage, and conferring no connubial claims or obligations on the nominal bridegroom, who has thenceforth no further connection, but rather serving to set the girl at liberty, as soon as she arrives at maturity, to form temporary associations, or to change them as she pleases.

The Malayálam Sudra laws are as follows:—

Sudra women usually marry in their own caste, but sometimes are married by men of higher caste. But the mere ceremony of marriage does not make her a wife unless the same man should

also "give cloth" and cohabit with her. The trifling ceremony of "giving cloth" is rarely omitted in any case of cohabitation. It is not now usual for a woman to enter into such concubinage with several men at one time, except she resides with several who are brothers. Nor can she ever associate with a man of lower caste. In no case can an inferior male have intercourse with a female of superior class.

Their children have no claim to inherit from the father. The nearest heirs of a Sudra man are his mother, brothers, sisters, and sisters' children. The woman's property goes first to her children, male and female.

The Náyar family is undivided, and by theory the ancestral property is impartible, though it sometimes is divided by consent of all the members, and this should be more and more allowed and approved of for the advancement of the country and welfare of society. The family property is enjoyed by all in common as a kind of commonwealth or civil family, administered by a *káranavan*, or head of the family—either the maternal uncle, or the eldest brother. The common property is vested in him as executive officer or trustee, but without power to make arbitrary alienation. He is authorised to alienate it only to meet necessities, in order to save the family from greater loss, or for some such similar purpose. The theory is that the unanimous consent of every co-proprietor is required to each valid act of the *káranavan*, because each member claims, not through another, but through himself. This would make the transaction of business well-nigh impossible, but for various legal rules; as, for example, it is presumed that every act is done by him for the good of the family, and the negative must be proved by a complainant, which is difficult. A transfer of land by a single member is quite invalid: at least one other member of the family must sign the document, and in fact all should do so.

Each member of the *Tarawád* (household) is legally entitled only to subsistence, and the acquisitions of each merge in the common fund, excepting movables and jewels individually acquired by gift or otherwise.

A man's sister's son, and a woman's own son, as their respective nearest blood relatives, perform (if their age permits) the funeral rites on their decease, and observe mourning, remaining one year without shaving or cutting the hair.

Should a Náyar woman, after bearing a son to a man, reject the latter, he having presented to her some property, then bear children to another man and receive some property from him also, the whole property is common to her and her children. But if the grant was made in the name of particular children it is theirs individually.

The Náyar ceremony called "marriage" is celebrated as follows:—

Every girl must somehow get married with the *táli* (marriage badge) before the age of eleven, to avoid reproach from friends and neighbours. In case of need, a sword may even be made to represent a bridegroom. The ceremony may be performed for nine or ten girls at one time. The *pandal,* or marriage shed, is built and decorated in special style for the more distinguished families. On the day previous to the marriage, there is an observance called "changing of clothes," when the brides are brought into the shed, clothed with new clothes, and gorgeously adorned. Some relative usually acts as bridegroom, for which he receives a present of money; or a Malayálam Brahman is invited for the purpose. An astrologer having previously determined the auspicious hour for the marriage, and the agreement of the bridegroom's natal star with that of the bride, the former is met in procession, his feet are washed by the bride's brothers, to each of whom he presents a piece of cloth, and he is then seated along with the bride on a board covered with cloth. Then the *márán,* or drummer, places a light in the front yard along with a measure containing paddy, some cocoanuts, flowers, betel, &c., and the cousins of both bride and groom sing a bridal song. At the propitious moment the *táli* is tied. If the bridegroom be a Brahman, one will suffice for all, and he ties the *táli,* beginning from the eldest girl to the youngest in due order. Often there is one boy for each girl. Finally the Brahman washes his hands in expiation of the sin against caste, and in token that he has nothing further to do with the brides, receives his dues according to the number of girls, and goes off. The ordinary officiating bridegroom receives at the end of the ceremonies two pieces of new cloth. During the ceremony the musicians play, and the women present make a curious cry called *kurava.*

Four days are spent in feasting and merriment; then a ceremony called "bathing" is observed, at which the *márán*s must be present, as well as the relatives. On the fourth day the bride and bridegroom go to a river in procession with music to bathe, and ceremonies are performed the same as on the first day.

At any time subsequently, the girl may "receive cloth" from any suitable man, and consort with him. There is no fixed rule that the person who "married" her must not "give cloth" to the same girl, and this sometimes happens, but not very frequently. The girl continues to reside with her brother, or in a house built or given by her relatives, and the husband may be sent off at any time. The person who "married" the mother is called by the children "*appan,*" the actual father "*achan.*"

The ceremony called "giving a cloth," or agreement for concubinage, is also performed in the presence of relatives and neighbours, at an appointed time, usually in the night. The girl is set, with the young man, on a mat on the ground, the emblems called *lingam* and *yoni* being marked in front. A valuable cloth being offered by the youth, the girl asks her uncle, "Shall I receive it?" "Yes." The same question is put to the mother, who also gives her consent. A cheaper cloth is given to the woman's father, mother, sister, brother, and other near relatives.

Rev. J. Abbs, in his "Twenty-two years in Travancore," gives the following narrative, related to him by a Sudran, which well illustrates the subject in hand:—"Being a tall, handsome man of respectable family, although poor, I was engaged several years ago by two rich men of my own caste to be the husband of their sister. As they did not wish to give me a dowry, or to let their sister leave them, it was agreed that I should have a monthly allowance, go whenever I pleased to see my wife, and when at the house of her brothers, eat in common with the males of the family. This I expected would be permanent. But a few days ago, when I went to the house, I was told by the elder brother that I could not be admitted, as another husband had been chosen for his sister. Her brothers have taken the two children to train them up as the heirs of the family property."

The Iluvars, or cocoa-palm cultivators, who are the highest representatives of the Malayálam low castes, also perform a sham marriage in the infancy of the girl, generally by a near relation: when she is grown up she "receives a cloth," and goes to live with some man of her own caste. Like Sudras, they may separate at any time; but it is proper to call in four respectable men of their caste to see that accounts are duly settled, and to write a deed of separation. Ancestral property, or that acquired by the man before his taking a woman, goes wholly to the children of his sister, not to his own; but property earned by both during the continuance of the union is divided—half to the wife and children, and half to the sisters' children. Some other castes have a similar custom.

On review of these singular laws and usages it will be observed that—

(1) They materially deviate from orthodox Hindu law, and are, in fact, quite opposed to it. They are recognised and administered by the British Indian Courts as a distinct and separate code. According to Hindu law the marriage bond is permanent, and of most sacred obligation—so much so, that the widow can never re-marry, being considered as still virtually a

part of her deceased husband. Christian missionaries regard the marriage of Brahmans, Shánárs, and others, as perfectly valid, being a life-long contract of legal force; but those who have only "given a cloth," and may therefore at any moment separate from one another, are required to be re-married in Christian form. Amongst Hindus, children inherit equally, after deducting the widow's share; or, if there be no children, the father succeeds, or the mother. The Malayálam Brahman system may be characterised as "primogeniture run mad." Hindu marriage is monogamous; but Nambúri Brahmans practise polygamy up to the number of seven wives; and Náyars, Iluvars, and others occasionally practise polyandry—that is, a woman will reside with two or more brothers who are unable or unwilling to support a wife for each, as concubine to all. Amongst Hindus, the family property is owned by the members of the family individually in shares, not by the family as a corporation. But in the *Marumakkatáyam* family it is otherwise. Brahmans cannot even adopt a sister's son, or any child whose mother they could not have married; while Malayális ignore their own children, and value their nephews as sons and heirs. By Hindu law, only men and women of the same caste can intermarry. But in Malabar by far the greater number of the Brahman men, as will be obvious, are obliged to cohabit with females of some inferior caste, while the offspring of Sudra women may have either Sudras, Chetries, or Brahmans as fathers; and no distinction of caste is made from the circumstance of the father's caste. Those descended from Brahman fathers are simply Sudras like others, and merge without distinction into the caste. Even in the case of the royal families, who can afford always to have Brahmans or Chetries as consorts for their females, their children marry ordinary Náyar women, and fall into the mass of that caste with no more distinction than the very natural one of having been descended from royal blood. "The king's sons," remarked Forbes, "whether by his wives or concubines, have no privileges annexed to their royal descent; neither are they by birth entitled to any importance in the government."

Under the circumstances described, no widowhood is possible to Marumakkatáya women, while the Hindu widow is for ever incapable of re-marriage. The marked contrariety between the two usages appears in a celebrated case which occurred in 1872, and which still remains a serious blot on the civilisation of Travancore. An Iyengar Brahman nobly and courageously gave in marriage again a young virgin daughter who had been left nominally a widow by the death of her betrothed. The father was formally excommunicated from the temple and from

the society of his fellow-castemen, and the temple was cleansed at great expense and with solemn ceremonies from the pollution supposed to have been caused by his having entered it after the re-marriage; while on the other hand, about the same time the consort of one of the royal ladies having deceased, a cousin of his was quietly called in soon afterwards to fill his place, with the trifling observance of "giving a cloth."

(2) These regulations are all astutely planned for the exclusive interests of the Malayálam Brahmans, as indeed everything in the State is supposed to be devoted to the enjoyment of this very small minority of the population. They are free from tax on land and from capital punishment; about one-fifth of the annual income of the State is expended on religious entertainments and ceremonies, chiefly for their benefit. Of course the Brahmans of the present day are not the authors of these laws; but they maintain and enforce them, and are prepared to resist any measures of reform. The preface of the native work on this subject already quoted says:—

"As Malabar is but a small country, and other countries are extensive, should no exact account of these laws be prepared for the guidance of foreign priests, they may be found fault with and fall into contempt. And it might come to pass that even Malayális, without sufficient information, might say, Such and such are the traditions and customs of our land, but all men object to them, therefore it will be better for us to adopt the usages of other countries; and thus they may, without fearing to sin, reject the ancient customs and observances prescribed by Parasu Rámaṉ and others."

The whole is placed on religious, or rather superstitious grounds. "Parasu Rámaṉ ordained it." This personage may be altogether mythical, or may have been the leader of some immigration of Brahmans into Malabar. Whether the Brahman colonists found such aboriginal laws in operation, and adopted and maintained them for their own convenience and aggrandisement, or whether the present Malayálam Brahmans represent simply the highest class of the primitive inhabitants, raised to this position in imitation of the orthodox Hindu system by circumstances or by popular vote, it is not easy to discover. But it is clear that they have endeavoured to make the Sudras not only in theory, but in fact, their social slaves, and wicked threats are used to some classes if they do not place their females at the disposal of the Brahmans. G. K. Vurma says:—

"Múttathus marry females of their own caste; but they only perform the customary ceremony, while Brahmans cohabit with them and beget children. Should men of their own caste

dare to approach them, it is like incest with a mother—there is no atonement possible for them—and such progeny are sacrilegious!"

No wonder that these and other statements in the same book formed the ground of a complaint in the Courts of Travancore, the decision in which is understood to have been, that they did not constitute a personal libel, but mere historical statements, the accuracy or untruthfulness of which was simply a question for literary debate.

(3) Such loose customs respecting marriage are only suited to semi-civilised races, whose ideas of the sacred bond have not risen much above that of the association of the lower animals. These usages are not far dissevered from promiscuous intercourse of the sexes, or free love. Friar Jordanus, who resided at Quilon, and wrote his description of the wonders of the East some five centuries and a half ago, assigns as the reason for the nepotistic law the following:—

"In this India, never do even the legitimate sons of great kings or princes or barons inherit the goods of their parents, but only the sons of their sisters; for they say that they have no surety that those are their own sons; but 'tis not so with the sister, for whatever man may be the father, they are certain that the offspring is from the womb of their sister, and is consequently thus truly of their blood."

In a note on the above, Colonel Yule says that this remarkable custom of inheritance exists, or has existed, also in Canara; among the aborigines of Hispaniola and tribes of New Granada and Bogota; among negro tribes of the Niger; among certain sections of the Malays of Sumatra; in the royal family of Tipura and among the Kasias of the Sylhet mountains (both east of Bengal); in a district of Ceylon adjoining Bintenne; in Madagascar; in the Fiji Islands, and among the Hurons and Natchez of North America.

(4) This peculiar patriarchal and primitive system seems to suggest that both the Brahmans and Sudras of the Malabar Coast are of homogeneous descent, and of a primeval Turanian race. It appeared to W. Taylor that "the Nàyars are the descendants of the aboriginal inhabitants of Kérala, who probably were brought into some measure of civilisation by the colonist Brahmans, yet retaining so much of their own manners as to be a people, inclusive of mixed tribes, very different from genuine Hindus. There are traces of resemblance between their customs and those of the Maravars; and there is little doubt that they were aboriginally portions of one homogeneous, but excessively barbarous people." The Maravars have peculiar customs contrary to those of the Hindus, "particularly the frequency of re-

marrying allowed to the women, either upon voluntary separation from their husbands, or at their death." Dr. Gundert defines the Náyars as the "Sudras of Kérala, raised to the rank of Kshatriyas by their intimate connection with the Brahmans." Thus the so-called Kshatriyas or Chetries of Malabar may be but the higher classes among the Sudras; indeed, from their usages and history this would appear to be the case. And as it is known that the original partitions of caste early broke down, so that it is difficult to find pure Brahmans or Kshatriyas anywhere, more especially in the south of India, the popular traditions may embody some fragment of truth regarding the transformation of fishermen into Brahmans by Parasuráman investing them with the sacred thread. Dr. W. W. Hunter remarks that the Brahmans throughout India are of two classes—more ancient settlers, and aboriginal superior natives raised, as tradition generally asserts, to this rank. The Nambúris, for example, are said to originate from fishermen: they follow different customs from the orthodox caste, allow only the eldest male to marry, practise polygamy, and their ideas of marriage closely resemble those of the aboriginal Náyars. But in spite of their descent from a low caste fisher-tribe and semi-aboriginal customs, they make high claims, and despise other Brahmans. ("Orissa," vol. i, p. 254.)

It will be evident, from the preceding remarks, that under the Marumakkatáyam system of law there is a marked absence of the peculiar advantages and benefits of true marriage, and of family privileges which men highly and justly prize. Virtuous love and the noblest affections, paternal rights, and domestic order, the obligation to protect wife and children as the weakest party, the right of men and women to domestic felicity, all are more or less ignored; and this violation of the Divine law carries with it its own punishment, in the promotion of family dissension and of sensuality in various forms. As to the evils and inconveniences of nepotism—

(1) Polygamy, with its accompanying demoralisation and cares, is prescribed to the eldest son of Malayálam Brahmans in order to offspring, in place of the happy marriage of the sons to one wife each.

(2) The revolting practice of polyandry is not rare among Sudras, Carpenters, Iluvars, and other Marumakkal castes, and has been thought by some to have been the origin of these laws. But they rather appear to be traceable to the Brahman prohibition of marriage to all but eldest sons.

Rarely is there even felt such strong and elevated affection in these cases that the brothers quarrel, or are jealous about possession of the common partner; on the contrary, we have

known an elder brother offended because the younger, on becoming a Christian, very properly took a wife to himself.

(3) The natural relationship and reciprocal love of parents and children are interfered with, and perverted by this pernicious law. It is somewhat odd that notwithstanding the introduction and spread of enlightenment among the higher classes in Travancore, so far as to lead to the preparation and publication of interesting native works, some are yet found who are not ashamed to defend this distortion of the law of nature and of God, and to represent the love and relationship of the father as something merely conventional and legal, rather than natural: just as some tribes ludicrously go to the opposite extreme of obliging the mother to rise, and the father to go to bed with the new-born babe.

"The reckoning of blood relationship," says G. K. Vurma, "through the mother is more natural than through the male parent: the latter is rather by a legal rule. Among animals the mother alone cares for the progeny. Amongst men we find by experience that commonly the mother has more affection for the children, the father a little less. But as mankind are rational beings, besides that the father has some paternal affection (by nature), he cherishes it also by obligation of law, and on account of the children performing funeral ceremonies for him and inheriting his property. And we see amongst Nepotists greater affection, arising from reason, towards sisters' sons, who are not their own children, and merely by law their heirs and mourners."

Here the love and care and discipline of the father are systematically absent. And if children do not know, or scarcely know, their own fathers, how can they love them? Should there be a natural longing for the love of the father, it cannot be gratified. We have known a fine Sudra youth bitterly lament that his own father, a Brahman, cared nothing for him; and, in fact, the father could not under any circumstances eat with him, nor touch him without ceremonial pollution. If in any case we do find the same affection entertained for nephews as for children, it is but a forcing of nature, there being no other way of preserving the unity of the household and family property. Mr. Abbs remarks: "I have often been astonished to observe how natural affection is perverted and transferred by these customs. It was common for a man to have his nephews living in his house, and attending to his affairs as sons would have done, while his own children would be with their mother's family at a distance—seldom, if ever, having communion with their father. A Nair came to me one morning and told me very unconcernedly that his wife had died on the preceding day. He was married again in less than three months. In about a twelvemonth after-

wards, he came to me weeping bitterly, and told me that he had lost one of his nephews by death, and could not, therefore, attend to his usual vocation for a day or two. I asked him how it was that he grieved so much for his nephew and so little for his conjugal partner; he said that he considered his own sorrow more according to nature, as, being a rich man, when his wife died he could easily obtain another, but, having lost his nephew, he might live to see his estate fall into decay by neglect."

(4) The security of the marriage bond is affected. Indeed, there is no recognised form of marriage by which a Nayar man and woman could bind one another, even if they wished, for life. A poor man engaged as husband by a wealthy family may be sent off at a moment's notice, without wife or child, beggared in domestic charities as well as in purse: sometimes for failing to send a present on festival days, or on other trivial pretexts, he is discarded. Or his partner may be seduced away from him by a richer or younger man, and he left heart-broken and desolate. Still less has a woman any assurance that she will not be deserted in her advancing years, when her need is greatest, though she had been maintained while young and fair. We have known a Sudra hard to satisfy, and of an imperious temper, who had eleven women, one after another. A Sudra woman may be dismissed with a word, "Go leave the house," and another may be brought into her place next day. Concubines are frequently changed before having children, or even after bearing several children to one man.

(5) Much misery and heart-burning are caused to the victims of this social tyranny, the younger sons of Brahmans being prohibited honourable marriage with persons of their own class, and forced to form illegitimate connections with strangers, and the larger proportion of Brahman women mercilessly doomed, notwithstanding the high estimation in which the Hindus hold marriage, to perpetual celibacy, with all its risks and privations. Many of these females live and die unmarried: yet, strange to say, the corpse undergoes all the ceremonies of marriage. To prevent their falling into unchastity they are closely shut up and guarded. Occasionally they do fall, and then are irrevocably expelled from family, friends, and society. In such case they must join the lower castes, to whom they were formerly sold as slaves and concubines, or go over to the Roman Catholic or Syrian Christians, uniting with some one in marriage. And before a case of this kind is decided by a committee of the heads of the Brahman caste, the expense of the investigation is sometimes so great as to ruin the family.

(6) It is evident that sensuality and lust are fostered and encouraged by such usages. The union of the sexes is viewed

in the lowest and most degrading light, and the whole country becomes saturated with immorality and vice. Castes which have the institute of marriage, as Shanars and others, are tempted to adopt more or less of these rules; and some branches of these castes have become so corrupted. Individuals of some castes are allowed to form connections with Sudra females which are to them irregular, but which they attempt to justify by pleading the Náyar usages; and innumerable cases of prostitution occur, even among the respectable classes.

(7) Community of property naturally tends to discourage individual activity, personal exertion, and independence of spirit. The expenditure of a large family thus united may be less than if divided into several separate families, but the aggregate income would be much larger, and the peace and comfort enjoyed by the latter plan would be incomparably greater. Misery, idleness, ignorance, and poverty follow from these laws; life is wasted in listless inactivity. Such a home is "no true home, but rather a sort of family club, where all the male members of the household take their meals together. Employed or unemployed, active or indolent, he and his may live here and take their share with the rest as long as there is property enough, or employment enough, among them all to keep things going."

Sir H. S. Maine observes: "Where people are living in a state of Arcadian simplicity, without the desire or the possibility of advancement, the family system is a very sound one, as it prevents properties being split up, and enables a number of persons to be supported with a maximum of comfort on the minimum of means. But as soon as society begins to dash ahead, then the effect of the corporate union is deadening in the direct ratio of its strictness. Who will work with full energy when the benefit of his labour goes not solely, nor even chiefly, to himself? Who will work at all when some one else is working for him? Ingenuity could not contrive a more effectual plan for damping the spirit of the industrious, and extinguishing the spirit of the idle. It makes the best member of the family a slave, that the others may be sloths."

(8) Though some large Náyar families are known to live in peace and unity, the tendency of the law of nepotism is to promote family dissensions and discord. The Marumakkatáyam system of law is in itself intricate and complicated, and is one of the most difficult to administer in Travancore, because of the cheating to which it gives rise. A junior member of the family pretends that he owes a sum of money to a friend, with whom he is in collusion, and whom he gets to file a suit against him for the sum, in the hope of somehow squeezing it out of the

Tarawád property. Or, money is lent to one who seems, from all outward appearance, to be the actual manager of the family, till it is discovered long afterwards that he is not in this position. Complaints are frequent against the *káranavan* that he is dissipating the common fund; he is provoked, and sometimes becomes really indifferent to the general welfare. As many individuals in each caste, or sometimes two brothers, bear the same name, a member of the *Tarawád* may have the same name as his *káranavan*. He asserts that it is his own name that appears in the deeds and legal documents, and may thus succeed in gaining possession of property.

A man may be left with several sisters, all of whose children are dependent solely upon him. On the other hand, there may be two or more uncles responsible for the support and training of the children of one sister, and disputing among themselves as to the share of expenditure devolving upon each. Amongst the Iluvars and others the temporary wife sometimes secretly accumulates property in anticipation of being left unprovided for by the death of her husband; or she obtains, by clever management, from him while he lives, some gift of property.

The sons might, of course, be quite content to inherit from the uncle, and to profit by this law if he be more wealthy than the father; but cases have occurred in which the sons felt sorely aggrieved by their unnatural exclusion, and desired a change of the usage. A century and a half ago, two of the sons of a recently deceased Rajah of Travancore were slain by the new king, because they demanded the right of succession to the throne instead of their cousin, the nephew of the deceased.

There are, it is true, one or two incidental advantages of this system, or rather we should say, there are certain evils of the orthodox Hindu social system which it is impossible to unite with the nepotistic *régime*. For instance, Malayálam Brahman girls are not married till after puberty; and Sudra girls, though nominally married, are usually left free till the same period, when they enjoy more or less freedom of choice in the selection of their temporary partners. The whole arrangement tends to give Náyar women (though not Brahmanis) much influence, and admits of their being to some extent educated (1·19 per cent. of their number), and saves them from the sad privations of Brahmanical widowhood. But it will be observed that it is all for the pleasure of the Brahmans, and the same benefits would accompany any just or rational marriage law. The end should be attained by other means. No mercy is shown to the Brahman women: the men only have the whole world (down to a certain grade) cast at their feet. The only hope of continued subsistence and increased comfort to the dense and ever multi-

plying population of India consists in the adoption of prudential restraints on improvident and early marriages irrespective of the means of subsistence; but the plan adopted by the Malayálam Brahmans only removes the burden of providing for their progeny from the shoulders of this small but influential and wealthy community (10,762, or half per cent. of the total population) to those of the more numerous and sturdy Sudra caste (440,932 = 19·1 per cent.).

Some of the more enlightened and educated Náyars are now beginning to realise their degradation, and to rebel against the Brahmanical tyranny, and absurd and demoralising laws under which they are placed. Nepotism is felt by a considerable number of Sudras to be a special grievance because a man's own acquisitions, as well as the ancestral property, devolve to nephews; and only during his own life can he bestow anything on his sons. Even this is difficult of accomplishment. Many intend to do so, but go on procrastinating till it is too late. Iluvars have not such a grievance, as half of a man's own earnings goes by law to the children. Many Sudras would like a change, but it is impossible, they say, "unless the Maharajah commanded it and led the way." It is not easy to see how the native Government could make such a change before public opinion is ripe for it and demands it. Division of property aud individual ownership might, however, at once be allowed, as throughout British India; and the clear head of Sir Madhava Row many a year ago discerned the necessity for this. In his Administration Report for M.E. 1050 he says: "It is evident that some effective legislative action is required without delay in certain directions. For instance, it has to be declared lawful for any member of a Malayáli (native) family to insist upon a division of common property so far as he or she is individually concerned, if he or she wishes to separate. Not that such a law would be generally acted upon at once: the feeling in favour of relatives living together in an undivided state of property is too strong to yield to reason in the present generation. But it is obviously the province of Government to see that a general feeling of the kind does not operate as an instrument of tyranny over individuals." We fear this enlightened intention has dropped almost entirely out of sight, and that the tendency of more recent action has been rather to rivet more tightly the chains of this barbarous system of law.

But the Government has no authority whatever over the social usages of Brahmans. A good deal of controversy has taken place on the subject in the public prints, and a society for the reform of the Malabar laws of marriage (and inherit-

ance) has been formed at Calicut by the leaders of the Náyar community, especially those educated in English.

Besides being opposed by orthodox Hindus and Mohammedans, this system of laws also forms an obstacle in the way of the spread of Christianity. Civil rights are lost by the change of religion. R. Moothookristna Naidoo says, in his work on the subject: "Females who will not obey their *káranavan*, and apostatise to other religions, lose all right both to subsistence and inheritance from the family property." A *káranavan* is also removed should he break caste by joining another religion. Christian fathers have been exposed to the interposition, in violation of natural rights, of the authority of the maternal uncle of their children to the extent of withdrawing them from their own control, and of preventing them from being received with the parents into the Christian community. The paternal right of converts to Christianity who may have children at the time of their conversion ought to be fully secured to them, notwithstanding anything to the contrary which may have obtained in the caste or people to whom they previously belonged.

Converts to Christianity in Travancore are liable also to be deprived of inheritable property on account of their change of religion. In some instances, as appears from the decrees of the old Appeal Court, Christians have been thus deprived of their property, though in other cases property has been awarded to Christians which belonged to their ancestors, or relatives who were not Christians. And in a recent case, where an Iluvar convert to Christianity has long individually enjoyed property derived from ancestors, and paid tax for it separately in his own name, which, therefore, he devolved by will to his children, the decision of the Lower Court in favour of the will has been reversed by the High Court, on the ground that ancestral property can never be divided, and therefore a share in it cannot be willed away to children, or others than the nephews. Such a decision is prohibitory of all reform in the future. "There are cases," says Lyall, "in which the action of law courts, in stereotyping and enforcing invariably customs that were naturally very elastic and varying, tend to check the natural modifications according to circumstances, the sloughing off of decayed forms." The law should be adopted in Travancore which was passed by the late East India Company in 1850 (Act XXI), that no one should suffer by loss of property, or in any way on account of a change in religion. In one case, that of a Hindu dying without heirs except such as have become converts to a different religion, the Sickar has relinquished its claim to escheat, and permits the property to descend to the natural heirs independently of religious considerations (Procl.

No. 90 of 1869). But where there are Hindu heirs converts still lose their rights.

An additional difficulty is also cast in the way of Christian converts, who had formerly belonged to distinct castes, intermarrying, as the domestic usages and the laws of inheritance vary so widely. So in regard to Christians seeking to adopt the law of nature and of Scripture in leaving their property to their own children by will. By the law of British India this may be done; but there is some uncertainty as to whether it is yet allowed in native States or not. It is of great importance to future progress that this right be granted. Property might easily be divided according to existing customs of Marumakkatáyam which are occasionally applied, and each might then enjoy in future his individual estate, and hand it down to his children, like other Hindus, by will; or, if intestate, in accordance with the provisions of the Indian Succession Act of 1865, with any modifications that might seem demanded by the circumstances.

Some effective form of marriage, instead of "cloth giving," might also be settled on, and left to the option of individuals desiring to adopt it, which would no doubt come into repute in course of time with the more intelligent and well-disposed Náyars. It is said that some such Act has already been drafted in Malabar, intended for proposal to the Madras Government.

Any hasty or ill-considered attempt at change or legislative reform could not but cause infinite confusion. The facts should first be made accurately known, and a more enlightened public opinion created by free ventilation of the question. But it is obvious that great difficulty would be found in altering, even for the better, the law of inheritance obtaining amongst a million or two of people, most of whom are possessed of some property. One singular advantage of the monarchic form of government is the avoidance, by the law of hereditary succession, of disputes as to succession, and of discussion as to the personal merits of candidates for power. An attempt to change the nepotistic law would naturally and reasonably aggrieve the next legal and expectant heirs according to the present system. It so happens, however, that while in the Cochin State, which is but a small kingdom, with a population of only three-quarters of a million, no less than twenty-two princes are heirs expectant to the throne, and form a heavy burden on the public for maintenance in idleness and luxury; in Travancore, the only other, and much more important, State in which the nepotistic law carries with it royal power, there are but four princes still to reign, and no possibility of more, except by adoption. The family, in fact, judged by their nepotistic law, has come to an end, as there are no sisters alive of any of the present heirs to continue the

nepotistic line. Indeed, all but the next heir are themselves the sons of ladies adopted some twenty-five years ago for the purpose of continuing the succession. As these princesses have no daughters, the dynasty is again near to extinction after the present four princes shall have had their turn, unless the children of the present Maharajah, or of future Sovereigns, are taken into account. It happens, therefore, that it would be easy to alter the Travancore succession by the simple plan of adopting no more females into the family: no one would be personally aggrieved or injured, and sons or heirs of the body might succeed thenceforward. Who knows whether the next fifty years may not bring round such general enlightenment, or such a spread of true Christianity amongst the higher classes (which we look upon as the only true remedy for all social disorder), as to admit of the possibility of even this reform?

The following paper was read by the Assistant Secretary:—

On the NEW CODE *of* LAWS *for the* HOVA KINGDOM *of* MADAGASCAR, *promulgated at Antanànarivo on March 29th*, 1881.[1]

By Dr. G. W. PARKER.

THE laws about which I am going to speak are in force only in the Hova dominions in Madagascar, which comprise a large part of that island, but by no means the whole of it, although the Hovas lay claim to the entire island by virtue of the wish to possess it.

The origin of the present Hova power, which began scarcely seventy years ago, is as follows:—

When Mauritius passed into the possession of the English at the peace of A.D. 1814, the attention of its Governor, Robert Farquhar, Esq. (afterwards Sir Robert), was at once turned to the neighbouring and much larger island of Madagascar. In A.D. 1816, at Port Louquez, a tract of land was ceded to the English by some of the chiefs on the east coast, who at the same time gave the English large herds of cattle, and who also delivered up, to be put to death, one of their number who had massacred the first settlers of that colony. About A.D. 1815 or 1816, Governor Farquhar turned his attention to the abominable slave-traffic which was being carried on in and around Madagascar, and he fixed upon Radàma, one of the chiefs of the Hovas, as the most likely means for accomplishing the death of

[1] All quotations in this paper are extracted from the new Hova laws, or the Queen's Speech connected with them.

slavery in that island. Radàma, although young, had already reigned about seven years, and had acquired the reputation of being a warlike and unscrupulous chief, who was rapidly mastering his neighbours by terror or by the spear. The ancestry of Radàma is shrouded in the mists of tradition, little being known of any of his predecessors except his adoptive father. Radàma's father, who rebelled against his lawful Sovereign (who is said to have been also his own nephew) while absent on an expedition against a neighbouring town, is the first well-known king of the present Hova dynasty, his reign forming the starting-point of authentic Hova history.

There is no need to go into the history of Radàma I, or of his father, except to mention a few facts which are closely connected with the present state of the law in the territories now governed by their descendant. Of these two chiefs, the latter rejoiced in the long name of Andrìanampòinimèrina (or, "King of the heart of Imèrina"), and he parcelled out his possessions in Imèrina into six districts, over each of which he set an official, whom he styled a "*Vàdintàny*," or "husband for the country." His successor, Radàma I, next appointed "judges" and subdivided the people into "hundreds" and "thousands"; he also established a standing army, and placed garrisons in the most important towns which he had conquered in other parts of the island, "in order to enforce his father's boast, 'The sea is my frontier!'"[1] These arrangements were kept up, with slight additions, during the reign of his usurping successor, the persecuting Queen, Ràvavàlona I. (whose official title, consisting of nineteen syllables, means, "*Beloved by the King of the heart of Imèrina*"); and still further improvements were made during the reign of Queen Ràsohèrina, the immediate predecessor of the present queen. Between these two queens, Ràvavàlona I. and Ràsohèrina, there reigned a young king, Radàma II, for the short space of about six months, when he was murdered in his palace; and it is chiefly for that reason, but partly also because he was not allowed time to make "further improvements," that his name is almost always omitted from Hova official documents.

The present mode of government among the Hovas is unique. From the date of the murder of Radàma II, the power of the throne has been weakened, the family of the present Prime Minister has absorbed into itself all important offices in the State or in the army; so that its head can now boast of practically regal power, like that of the Mayors of the Palace of the Merovingian kings in France, being, moreover, the *ex-officio* hus-

[1] These words of this chief are quoted in almost every Hova "*Kabary*," or public speech.

band of the queen, and responsible only to her for all his actions.[1] In *theory*, the Hova queen is an autocratic Sovereign,—"the queen alone makes the laws!" but, in *fact*, the country is under the rule of an *oligarchy*. The head of it, who is styled "Prime Minister," besides being *ex-officio* husband to the present queen (as he was also to her predecessor), and residing with her, day and night, in the palace either at Antanànarivo or elsewhere, also holds the offices of Commander-in-Chief of the army, Head of all State business in Madagascar, Chief Councillor to the Queen, and Chief Judge; and, until recently, every trial or lawsuit, every kind of business, whether civil, political, or military, important or not (in fact *everything*), was obliged to be reported to him. This was possible while the Hova power was smaller, and its relations with other tribes, and especially with foreign nations, less complicated; but lately the discovery has been made that whatever amount of truth there may have been in the fable of an Atlas-supported world, there are no shoulders which can bear the burden of a State alone—in other words, it was seen that a division of labour (not of power) was advisable. Hence arose a re-arrangement of the Hova Government according to the following scheme, which was read aloud to the assembled people before the reading of the laws themselves, the names and rank of the heads of the various departments of the new Government being in each case also proclaimed.

I. *The Ministry of the Interior* consists of five members.

Their duties are as follows:—

1. They are responsible for the good conduct of the native watchmen; whose duties are principally to keep the peace in the towns and villages, to attend to the cleanliness of the streets and private grounds, and to summon persons who are required for a lawsuit, trial, or any public service.

2. To register carefully all births, deaths, and marriages.

3. To protect the forests and woods from injury or encroachment, and to encourage the planting of trees in towns and villages, and especially where the forests have been cut down.

4. To attend to the cleanliness and repair of all drinking-springs and roads, and to prevent encroachment upon the drill-grounds and public assembly-grounds. In every Malagasy town or village it is the custom of the inhabitants to assemble together at some convenient spot, whenever it is necessary to receive an order from the local authorities or from the central

[1] Although among many other Malagasy tribes (especially the Sàkalàvas) each "king" or "queen" has a man acting as factotum, usually under the title of "landowner," yet only among the Hovas does this Prime Minister also become *ex-officio* husband to the queen.

government, as there are no newspapers in which public proclamations can be inserted: hence the necessity of protecting these places of assembly.

5. To receive and answer all letters passing between the queen and the various Hova garrisons in the more distant parts of the island.

6. To attend to all matters connected with the prisons.

7. To receive the capitation-tax, which is paid in rice.

8. To take care of the rates of usury, scales and weights, measures of bulk, and measures of length.

9. To assist the local authorities of each of the districts into which Imèrina is divided.

10. To take cognisance of all land-marks and sales of land, and also of epidemic diseases.

II. *The Foreign Ministry* consists of four members, and their duties are—

1. To transact and register all business between Malagasy subjects and the subjects of any foreign nation.

2. To see that treaties with foreign nations, and private agreements with foreigners, are properly carried out.

III. *The Ministry of War* consists of four members.

Their duties are—

1. To see that the annual levies are called and drilled; and that all men whose five years of service have expired shall be dismissed from the army.

2. To command any warlike expedition.

3. To change the various garrisons about every five years.

4. To see that the army is properly supplied with officers, that both officers and men strive to become proficient in their duties, and that proficiency and diligence are rewarded.

5. To attend to the proper equipment of the army.

IV. *The Law Ministry* is divided into two sections, each consisting of three members.

The members of the first section attend more especially to matters connected with criminal and civil law.

Their duties are—

1. To disseminate a knowledge of these laws.

2. To see that lawsuits and criminal trials are not unnecessarily delayed, or intentionally protracted when once commenced; that the guilty are condemned, the innocent acquitted, and the course of justice not turned aside.

The members of the second section have the oversight of law in general, but especially of political law, such as the laws relating to persons, property, taxes, money to be paid into or out of the

public treasury, &c. They also make regulations for the guidance of the various district authorities.

V. *The Ministry for the Encouragement of Industrial Arts and Manufactures* consists of four members.

Their duties are—

1. To encourage agriculture and the cultivation of plants having an economic use; and also the cultivation of waste lands.

2. To encourage the breeding of animals useful as food; the instruction of others in service, and generally to improve the breed of all domestic animals.

3. To disseminate things for sale, whether intended for exportation abroad or for native consumption.

4. To encourage manufactures in metals, wood, or stone.

5. In all cases to reward diligence and skill by means of prizes to be offered annually by the Hova State.

VI. *The Ministry of the Treasury* consists of four men, and their duties are to receive, take care of, and pay all monies belonging to the State.

VII. *The Ministry of Education* consists of four men; their duties are—

1. To see that all children are sent to school, and that they make due progress in their studies.

2. To examine, annually or at shorter intervals, all the schools, irrespective of the persons (European or Malagasy) who teach in them, and to give State rewards to diligent scholars.

VIII. *The Privy Council* comprises all officers who are connected with the Court, especially those of the higher ranks.

In case of non-performance or mis-performance of public duties, any of these officials will be punished.

The revised code of laws contains 305 distinct statutes, which, together with a lengthy preamble, index, and scheme of the new ministries, are contained in a clearly-printed pamphlet of 80 pages.

In the preamble to these laws it is noticeable that the queen asserts her right to *add to or alter* them, when thought fit; hitherto the Hova laws have been regarded as unchangeable as those of the Medes and Persians of old.

Among the twelve capital crimes punishable with the death of the offender and the confiscation of all his property, and referring chiefly to treason, rebellion, and wilful murder, we find still included "the making of evil charms with intent to cause the death of the Sovereign," while we find omitted "the taking (*literally* "the stealing") of a secret oath of allegiance." The latter crime was recognised in the previous code of Hova laws,

promulgated in A.D. 1868, but why it is now omitted we cannot understand, unless this was an oversight. Among the Hovas the oath of allegiance to the new Sovereign is (or used to be) taken by the side of a certain pond in Antanànarivo, or by the side of a canoe (used as a trough) filled with water from that pond; and as an important part in the ceremony consisted in the oath-taker *striking the water with a spear*, the oath of allegiance itself is called "*the act of striking water.*"

For having knowledge of an intended rebellion or murder without giving information about the same, the punishment is penal servitude for life. For striking with any blunt weapon, provided death do not result therefrom, the punishment is penal servitude for one year; but for committing murder, or inciting to commit murder, or for striking with a sharp weapon, whether the person struck be killed or not, the penalty is *death.*

Disrespect to the Sovereign is now for the first time recognised as a crime, and punishable with a fine of 10*l.*, or with the alternative of penal servitude for five years. Formerly among the Hovas (and such is still the case among other tribes) anything short of instant obedience to the chief's will was punished with instant death.

To import Africans into the Hova dominions, or to export Hova subjects as slaves, involves a penalty of penal servitude for life, with the forfeiture of all the possessions of the offender. This law and the permission for slaves to go to school, if they like to do so, are a tribute to English perseverance in combating slavery everywhere!

The penalty of penal servitude for twenty years is the reward of digging for minerals (coal, iron, lead, gold, &c., &c.), for man-stealing, or for forging patents of rank; while penal servitude for ten years is the reward for forgery of any signature, for setting fire to any building, for breaking into a dwelling-house or into a tomb,[1] for going about late at night with evil intent, for putting the hand through the palisade which surrounds a palace with intent to steal, or for buying, selling, or even possessing gunpowder without a permit from the Prime Minister.

With regard to theft, the nature of the punishment varies with the importance of the article stolen. The heaviest punishment (penal servitude for seven years) is awarded for thefts inside or from a place of worship; then comes the crime of picking pockets, or rather of cutting off that corner of a native's cloth ("*lamba*") in which his money is tied up for want of a pocket; then follow thefts of rice—whether growing, stored in pits, or

[1] Money and other valuables are buried with the dead bodies by most of the Malagasy tribes; hence the temptation to break open tombs, especially those of persons of rank and wealth.

exposed for sale,—canoes, oxen, small animals (*i.e.*, sheep, pigs, cats, and dogs), and poultry, sugar-cane, and the various kinds of fruits and vegetables. If a man finds anything which has been lost, he is obliged to take it to the nearest police court or Government official; when he will be rewarded to the extent of one-tenth of the value of the article, while the State will deduct another one-tenth for itself, after which the lost article is restored to its owner, if any can be found.

One thing noticeable in this revised code of Hova laws is the power which a Malagasy now has of either paying money (as a fine, court-fees, value of property, &c.), or of working out an equivalent in time by imprisonment for as many *days* as there are *sixpences* contained in the sum of money to be paid. This arrangement is convenient, because few of the Malagasy possess money, their possessions being chiefly land, cattle, and slaves; and when they do possess money they generally prefer to part with their liberty for a time rather than with their beloved money. Indeed I have known a man of princely rank who preferred to endure penal servitude for life (or "until the money should be restored") rather than give back the sum of 200*l.*, of which he had unjustly deprived another. There is no accounting for taste!

Slavery flourishes throughout the whole of Madagascar, although the importation of Africans and the exportation of Hova subjects are made illegal among the Hovas. Throughout Imèrina it exists chiefly as domestic slavery, the slaves being fairly well treated, as a rule. As formerly in America the term "*slave*" was disliked, and the more euphemistic terms, "*man, boy, girl*," &c., substituted, so among the Hovas, since the introduction of Christianity, the term *andèvo* (slave) has become disliked, the terms *mpanòmpo* (servant) and *ankìzy* (child) being used instead. Trading in slaves is now illegal among the Hovas; but any one is free to buy slaves, if he intends to keep them for his own use. An owner must register his slaves—partly in order that the Government may know to what extent to tax him, partly lest he should be accused of man-stealing. Again, registration must be effected when a slave changes his ownership or gains his freedom in any way. As regards the runaway slave, the fine for hiding him is one shilling *per diem*, one-fifth of this fine being taken by the State and the remainder given to the owner; while, for the capture of a runaway slave, his owner pays 10*s.* if a civilian, but only 7*s.* 6*d.* if a soldier. The education of a slave is not forbidden, a slave being permitted to go to school, but his attendance there is entirely dependent on the will of his master.

Throughout the non-Hova parts of Madagascar man-stealing flourishes, marauding raids being frequent and life of no account,

A. stealing both cattle and people from B. on his one hand, to sell them to C. on his other hand: in short, "every man's hand against his neighbour." The ruins and ditches found on almost every hilltop are proofs that there formerly existed a numerous population in many parts of Madagascar, which now are nearly or quite uninhabited; and even in Imèrina, before Governor Farquhar interfered, the population was decreasing at the rate of 9,000 or 10,000 a year! Since Radàma died, there has been no mortality comparable to this in Imèrina until the recent epidemic.

Marriage is easily entered into in Madagascar, and as quickly annulled. The essence of the marriage ceremony consists in paying a small sum of money to the Sovereign, as well as in making presents to the family of the bride (in fact *buying her*); and divorce consists only in the husband saying to his wife, "*I thank* (or *divorce*) *you; I do not want you as my wife any longer!*"—when she is free; whether she wish to be so or not is of no consequence to the husband, who, however, ought to give her one-third of all property jointly acquired by them since their marriage. In some of the more heathen parts of Madagascar divorce is still more easy; because one of the missionaries gives an instance where a husband, angry with his wife for beginning her dinner before he had finished his, both divorced and punished her by *shooting* her on the spot! However, the new Hova laws now make it permissible only under certain circumstances. A marriage cannot be forced, *i.e.*, the consent of both the contracting parties is requisite. Marriage with a deceased brother's wife is no longer compulsory; and it is curious that both the Malagasy and the Jews of old should have the same custom of marriage with a deceased brother's wife. But the Malagasy have no scruples against marrying a deceased wife's sister, as living wives are often supplanted by their own sisters! Marriage is now obliged to be registered. Bigamy (*literally*, "to make [the wives] to quarrel"), concubinage, and seduction are punishable; in the case of seduction the two guilty parties are fined 20*l.*, of which fine the woman must pay one-third; but if the husband of the woman has gone to the wars, the woman and her seducer are both sentenced to undergo penal servitude for life, and their possessions are forfeited to the State. There are four laws which regulate marriages between members of the various Hova clans, but none as yet to regulate marriages between Hovas and foreign subjects.

Throughout Madagascar buying and selling of food, clothing, &c., generally take place in open-air markets, the more perishable goods being sometimes covered with an umbrella or other slight protection; and as *meat* is the principal article of food,

there are now five laws to regulate its sale and the slaughter of animals for food, as well as against the use of unnecessary cruelty. There are six laws relating to the standards of weight, bulk, time, and the scales and weights, the last being chiefly used for weighing *money*. There is no coinage in use among the Hovas except foreign "dollars"—chiefly French five-franc pieces—and by means of a chisel and a hammer these whole dollars are chopped up into a great many small pieces, and *these* serve for the payment of sums less in value than 4*s*.

Of modern roads in Madagascar there is only one specimen, a few hundred yards long, in Antanànarivo itself; but there are plenty of footpaths, often of a very break-neck character.

For the protection of the primeval forests, which still form a wide belt all round Madagascar, and which are being greatly injured, especially by charcoal-burners and bamboo-cutters, there are now six laws.

The laws regulating the letting or hiring of land and houses are modifications of our English laws, except Law 85, which enacts that *only* Hova subjects may buy or sell land in Madagascar. This law was made to prevent any person in the future from making an agreement like that which the young King Radàma II. made with a French company, and which was the cause of his own assassination soon after his accession to the throne.

With regard to persons awaiting a trial for crime, or already in prison, or merely wearing chains, provision is now made that their clothing shall not be taken from them by greedy gaolers, nor themselves allowed to starve unless fed by their friends, or kept in prison or in chains for years after the expiration of their legal sentence. Banishment for a crime is usually either to the lime-quarries in the south-west part of the province of Imèrina, or to some place on the coast. In the latter case the prisoner's life is usually soon cut short by frequent attacks of malarial fever, combined with a poor and insufficient diet and frequent intoxication. This is a very convenient way of quietly getting rid of political criminals! The general prison for Imèrina is an enclosure surrounded by a high mud wall, and containing only some rude huts with thatched roofs and mud walls; in this place the prisoners are shut up at night, trooping thither every evening at sunset, while in the morning they are let out to go to work, or to amuse themselves (and *feed* themselves) as best they can until the evening. Another thing which is capable of improvement is the "*lock-up*"; here all persons of both sexes are huddled together in one small hut with no windows, ventilated by holes in the thatched roof, while any unruly man or woman is for

greater security put into a *box* (about $7 \times 3 \times 2\frac{1}{2}$ feet in size) and *locked up*. I have known two persons to be stifled to death during one night while thus boxed up!

As the Malagasy are intense lovers of money, exacting often 50 *per cent. per annum* as usury, a new law limits the amount thus payable, making it average from 2 to 5 per cent.

There are many laws relative to the proper management of lawsuits and trials; the conduct and powers of the judges themselves (extortion being specially prohibited); the duties and powers of the native police; and *jurymen* are now first mentioned in Malagasy law, although the presiding judge is not compelled to select a jury, nor is the number of the jurymen defined.

With regard to international matters, a Hova subject who infringes a treaty with a foreign nation will be punished according to the Hova law. But an important omission in the newer code of laws is Law 69 of the previous code (A.D. 1868), which declared that any foreigner would be banished from Madagascar who should be found doing *anything* injurious to the Hova kingdom. In was in accordance with *this* law that the Hovas banished Madame Ida Pfeiffer; although they added the unnecessary cruelty of detaining her in a pestilential place, where she contracted the fever from which she subsequently died.

With respect to religion, although the present queen is a Protestant, and recommends her religion to her people, she makes no particular form of religion compulsory; but many over-zealous officials try to fill their churches by using a little "pressure," so that in many parts of the Hova dominions the people consider "going to church" as one form of service to the State, and often send friends as substitutes.

With respect to education, there are thirty-seven laws relative to the schools, the scholars, the teachers, and school examinations. All children are required to attend school from the age of eight years until that of sixteen; after which a young man may stay at school only if he wishes to become a teacher. Every town or collection of villages must have a school, with its schoolmaster, both of which are registered by the Government. Inspectors are appointed, who hold examinations at stated intervals, giving rewards to both scholars and masters, the latter being liable to removal if their schools do not make reasonable progress. The lowest standard which any scholar must reach who desires to possess a Government certificate of merit, is a knowledge of *reading, writing,* and *arithmetic up to simple proportion.*

While there is a tendency in the present laws to make the

power of the queen still more despotic, and to keep her people in a state of subordination, cramping their energies, on the whole these Hova laws are more merciful and reasonable, and contrast favourably "with the unreasonable and implacable severity of the system of laws in vogue (less than) twenty years ago"—by which even a fowl, if caught trespassing, was punished by being *flogged to death!*

As regards the *progress* made during the past thirteen years the chief points of interest (briefly stated) are the following:—

1. The Sovereign's dignity is now protected from disrespect.

2. State-dues (as property devolving on the Crown for want of heirs, &c.) are now regulated and guarded.

3. The greater strictness of the laws against slavery, the heavy punishments for man-stealing, importation or exportation of slaves, and slave-breeding. On the other hand, the education of slaves is allowed, and selling a debtor into slavery is abolished.

4. Standard measures of length, weight, bulk, and time are now adopted, and their use made compulsory.

5. Although no periodical census is instituted, or statistics published, births, deaths, and marriages are now registered.

6. Although there are no workhouses or infirmaries, legal provision for the support of the poor, the aged, and the infirm (whether parents or not) is now made, besides an approximation to our system of pauper burial.

7. The woods and forests are more carefully preserved.

8. The money currency is now regulated, and the maximum rate of usury fixed, but, by a strange oversight, the law against *coining* bad money has been omitted.

9. Religious toleration is clearly stated.

10. Now, for the first time, does the Hova law acknowledge that a treaty with a foreign nation is equally binding upon the *Malayasy* as upon the foreigner; because one law (262) expressly provides for the case of any possible infraction of such treaties.

11. Although Madagascar abounds in minerals, mining is foolishly prohibited.

12. The laws against *intoxication* are more numerous (four instead of only one) and more strict, and the official limits of the province of Imèrina are stated for the first time; but the enforcement of these laws will remain a farce so long as rank is allowed to shield the offender, and the rich allowed to escape punishment.

13. Education is made compulsory up to the age of sixteen years: a minimum standard of knowledge fixed; all schools registered, visited by inspectors, and prizes awarded to diligent scholars; annual examinations are held at convenient centres;

higher examinations for schoolmasters instituted, with a kind of capitation-grant to masters for all diligent scholars; and *slaves are allowed to go to school,* though removable at their master's pleasure.

14. The medical and sanitary laws are quite new.

Abortion is prohibited, but medical men are expressly left free to act according to their judgment as regards the induction of abortion or of premature labour; and pregnant women are now guarded from violence.

The cleanliness of towns, houses, drinking-springs, &c., is a matter of careful legislation, and *leprosy and small-pox* are ordered to be isolated.

The *sale of medicines* is now put under restrictions, a license (procurable only by an examination) being required. The medicine-seller's shop is liable to be visited, without warning, on the least suspicion of treachery or adulteration; and the sale of *poisons* made more difficult, and always required to be registered.

Although there are no lunatic asylums, youth and unsoundness of intellect now confer immunity from liability for the punishment of a crime.

15. In State matters the power of officials is regulated, the weak and socially inferior guarded from injustice and extortion, and the remaining power of the "sub-chiefs" further narrowed.

16. In regard to matters more purely legal:—bribery is forbidden; the judges made liable to punishment for misconduct; tables of court-fees and of fines given; all legal transactions (including wills) ordered to be written and registered; an approximation to our police system is commenced; criminals are prevented from being ill-treated, or even starved to death by their gaolers; and vendors of libel and indecent prints and publications are now punished. Marriage is now made a matter of free will between the contracting parties (no religious ceremony being required); marriages between the various clans of the Hova nobles, and between these and other people, are provided for; and marriage with a deceased wife's brother is no longer compulsory. Bigamy and divorce are now recognised as crimes, but divorce is permitted in certain circumstances. Cohabitation is practically outlawed, and concubinage punishable with fine or imprisonment; and seduction, especially of a soldier's wife, is heavily punished, while general immoral conduct is also punished.

In lawsuits, arbitration by neighbours or others is allowed, with certain restrictions; the written and signed deposition of a witness who cannot attend in court is now accepted; and

lastly, a *jury* is now mentioned, although the number of jurymen is not defined, and the empannelling of a jury is entirely a matter of option for the judge.

On a CIRCULAR STRUCTURE *at* CUMMER, CO. WEXFORD.

By G. H. KINAHAN, M.R.I.A.

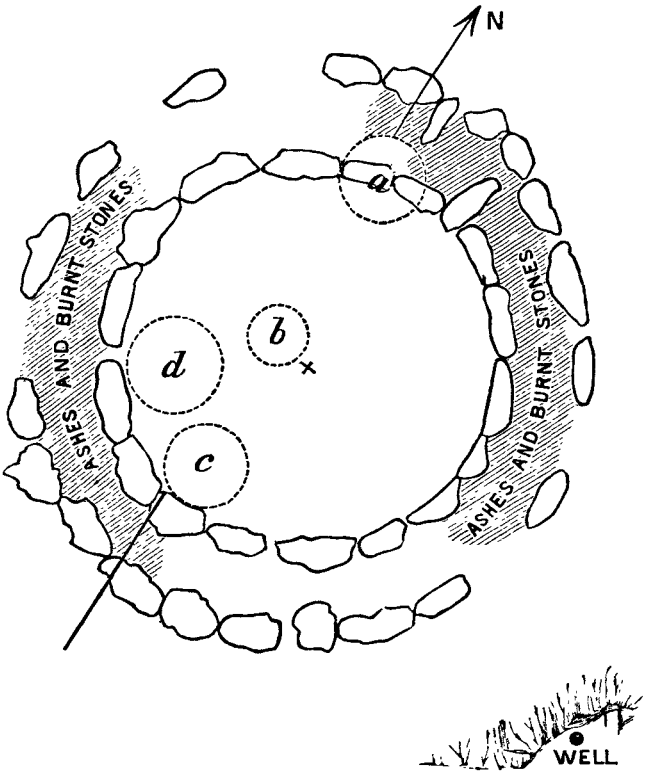
(WITH PLATE XI.)

IN the neighbourhood of the Croaghan Kinshellagh range, the ridge of hills at the junction of the counties of Wicklow and Wexford, in different places are the records of prehistoric sepulchres. Of those for which I could find exact localities, a list has been made from the Royal Irish Academy, and to one of these localities, on account of a remarkable structure at it, I would beg leave to draw the attention of the members of the Institute.

The locality to which I refer is Cummer (Ordnance sheet 2). Here formerly, at the well adjoining the village, a patron was held, but was given up some fifty or a hundred years ago, while at a much earlier period a people who burned their dead used the place; the locality may first be described.

A little north-west of the well is a structure formed of two circles of standing stones, respectively 9 feet and 11·5 feet in diameter. During explorations, courteously permitted by the Right Hon. Viscount Powerscourt, lord of the soil, it was learned that the stones seemed to have been set up on the surface of the ground, or were very slightly imbedded therein, the rock coming nearly to the surface, while afterwards a mound was made about them. The stones in the outer circle slope slightly outwards, and were underpinned to keep them from falling, while the stones in the inner circle have been wedged to keep them upright and close together—the stones for the most part being those peculiar ones, flat at one side and round at the other, so often found in mountain streams which flow through glacial drift. Between these circles, to the south-west and north-east, the space was filled up with wood ashes, mixed with burnt shingle, the ashes generally predominating. The outer circle was a little lower than the inner, thus forming a narrow terrace round the structure: the inner circle being very regularly placed, the outer not so regularly; some of the stones of the latter, however, may have been previously removed.

In a north and south line, a little west of the centre point, three pits, *a*, *b*, and *c* (Pl. XI), were found—*a*, under the inner



PLAN OF CIRCULAR STRUCTURE AT CUMMER, CO. WATERFORD.

circle (2 feet in diameter, and 2·5 feet deep); *b*, immediately west of the centre of the circle (1·5 feet in diameter and depth); and *c*, immediately inside the inner circle (2 feet in diameter, and 3·5 feet deep); while a fourth pit (*d*) adjoined *c*, it being wide and shallow (3 feet and 1 foot). These pits were below a thin floor of ashes that was 3 feet below the surface, inside the inner circle: while margining this floor and lining the inside circle were burnt stones, in places regularly placed and forming a rude pavement.

Thirty-three yards or thereabouts south of the well are irregular low "black heaps," made up of ashes and roasted shingle.

Twenty yards to the north-west of the well, in or about 1877, one of the residents of the village, James Bain, when building a wall, raised a flagstone that was at the surface of the ground, and under it found a square "stone box" formed of flags. This seemed to be full of ashy clay; but when rudely clearing it out with his spade he smashed up a large figured urn that was in it. From the fragments, the urn has been estimated to have been about 12 inches in diameter at top and 9 inches high, with a flat lip and slightly curved sides. This kistvean had evidently been put in a hollow purposely excavated in the slate rock.

The same James Bain, between thirty and forty years ago, found, about 50 yards south-west of the circles, in an old ditch, three kistveans in a line: the two outer ones had somewhat similar urns in them to that just mentioned, while the centre one had besides, inside the large urn, a handsomely ornamented small one. The latter was in his possession till a few years ago, when it was stolen from him.[1]

Extending nearly due north from the village for 270 yards is a wide, stony path locally called the "causey" (corruption of *cassaun*, a path) and at the north end of it, in an angle formed by the meeting of two country roads, are some standing stones: these a few years ago were very numerous, forming circles, squares, paths, &c., but now nearly all have been carted away for building purposes; but the original arrangement, in part, can be still traced out by the holes in which the stones stood. Still further north, immediately south of a wall, to the north of the ridge, are a group of stones that appear to be the ruin of a small cromlech.

As previously mentioned, at very early times there was a *fearta*, or graveyard, in the vicinity of Cummer village; while

[1] Three miles to the north north-east, south-west and south of Loggan Moat two fearta, or graveyards, were discovered, having kistveans in them but no urns; to the south-east of the moat, however, in the side of the fosse there were kistveans with urns.

that the place was one of note appears suggested by the megalithic structures on the ridge at the north end of the "causey." Here there does not appear to have been any interments, as Bain states that while the stones were being raised and removed he carefully watched for anything that might be turned up. This I can believe, as it is popularly believed there is a treasure buried somewhere about. It may here be mentioned that during the explorations no implement or ornament, or trace of them, were observed; neither could I learn had any ever been found.

What is the circular structure at the well? Is it very ancient and of the time of the interments? or is it comparatively modern and of the time when the Christian patrons were held? The pits evidently are much older than the circles, as they were filled in before the circles were erected. It is also evident that a succession of fires were burned in the space inside the inner circle, and the ashes thrown out to the south-west and north-east. But who lit these fires, and why were broken stones mixed with the wood during the burnings?

Could these circles have been a furnace in which to burn the dead? or was it an altar on which to burn the sacrifices? If so, ought there not to be some remains of bone charcoal, of which I could not observe a trace? If post-Christian, there ought to be some trace of iron implements, of which I could detect none, or of some other record. A piece of a glass bottle was found in my absence, apparently near the surface of the ashes, to the north-east, between the circles, and this was all. As, however, I was not present I cannot say if it had been introduced or not; I suspect the first.

What also are the "black heaps"? May they have been due to fire, kindled for burning the dead? In connection with them it should be mentioned that black heaps are more or less common in most of the boggy valleys from Wicklow through Wexford into Waterford, in connection with certain ferriferous rocks—the burnt stones found in them being broken-up pieces of these rocks. This would suggest that they were for "roasting of ore" purpose; but somewhat similar heaps in the "Red-deer country," co. Waterford, are, by tradition and the ancient name—the places where the deer was roasted—as pointed out by R. J. Ussher, in a paper recently published in the "Zoologist" (March, 1882).

Explanation of Plate XI.

Plan of circular stone structure at Cummer, co. Wexford (Ordnance Sheet 2). Scale 5 feet to 1 inch.

Pit *a*,	2	feet	diameter	and	2·5	feet	deep	under ash floor
„ *b*,	1·5	„	„	„	1·5	„	„	
„ *c*	2	„	„	„	3·5	„	„	3 feet below surface.
„ *d*	3	„	„	„	1	foot	„	

JUNE 27TH, 1882.

Major-General PITT-RIVERS, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From Mrs. BRASH.—The Ogam Inscribed Monuments of the Gaedhil. By R. R. Brash, Esq.

From the AUTHOR.—The Early History of the Mediterranean Populations, &c., in their Migrations and Settlements. By Hyde Clarke, Esq.

—— Notes on the Archæology of Missouri. By F. F. Hilder, Esq.

—— Steinsculpturen aus Guatemala. By Dr. A. Bastian.

From the SMITHSONIAN INSTITUTION.—Smithsonian Report, 1880.

From the SOCIETY.—Journal of the Asiatic Society of Bengal. Vol. LI, Part 1, No. 1.

—— Proceedings of the Society of Antiquaries of Scotland. Vols. II, III.

—— Report of the Council of the North China Branch of the Royal Asiatic Society for 1881.

—— Proceedings of the Asiatic Society of Bengal, March, 1882.

—— Transactions of the Society of Biblical Archæology. Vol. VII, Part 3.

—— Journal of the Society of Arts. Nos. 1543, 1544.

From the EDITOR.—Correspondenz-Blatt, June, 1882.

—— "Nature." Nos. 659, 660.

—— Revue Scientifique. Tom. XXIX, Nos. 24, 25.

Mr. H. C. R. BECHER exhibited photographs of ancient terra cotta heads from San Juan Teotihuacan, in Mexico, and from Silenus in Sicily, calling attention to the similarity of form

in the two cases, and suggesting that in both localities they were to be regarded as relics of Phœnician art.

Mr. VILLIERS STUART, M.P., exhibited a copy of a funeral canopy of an Egyptian Queen, and casts of the heads of two Egyptian Kings; and read the following note:—

NOTE *on some* EGYPTIAN ANTIQUITIES.

By VILLIERS STUART, Esq., M.P.

THE coloured plate which I now exhibit[1] is the only drawing that has yet been made of one of the most remarkable relics of ancient Egyptian art that has recently been discovered. It was found in a subterranean corridor amongst a very miscellaneous collection of antiquities. There were no fewer than forty royal mummies: about half of these belong to the twentieth dynasty; but besides them were the remains of some of the most distinguished monarchs of Egyptian history. And it appeared from the inscriptions on their coffins that King Pinotem, of the twentieth dynasty, finding that wholesale robberies were going on amongst the tombs of the kings, and that he was unable to protect them while they were scattered in so many different places, had them gathered together into his own family mausoleum for safety, and there they have remained since somewhere about the time of the Trojan War until last autumn, when they were discovered by the curator of the Cairo Museum, and the whole collection were transferred thither. There were about 6,000 articles in all, including statuettes, ivory boxes, steles, and many other objects.

The original of this drawing was found lying beside the coffin of the queen in whose honour it had been made. It was in fact her funeral canopy, intended to cover the shrine of the boat in which she was conveyed across the Nile to her last resting place. It is constructed entirely of leather. When spread out it is about 22 feet long by 17 or 18 feet wide, and it covers about 200 feet superficial. It would occupy too much time to enter into the details of the design, which, however, will be found in the book I have recently published, but I may observe that the gazelle which figures so prominently on one side of it commemorates the existence of a pet of the queen's, which was found (embalmed), along with her coffin, in a wooden case made in the shape of the animal when alive. I can guarantee the colouring of this plate to be correct, and I have brought down

[1] This forms the frontispiece of my work, "The Funeral Tent of an Egyptian Queen."

some fragments of the canopy itself for comparison: these were given me by the museum authorities. The whole fabric is in fact a mosaic of leather work consisting of thousands of pieces of gazelle-hide of different colours, stitched together at the edges.

It will add to the interest of this subject if I mention that the queen in whose honour it was made was the contemporary of King Solomon. We know from monuments that she was the mother-in-law of King Sheshak, who took Jerusalem immediately after the death of Solomon.

I will now turn to another subject which, perhaps, is more immediately relevant to the objects of this Institute, viz., the casts of the heads of two kings of the eighteenth dynasty, which I took myself from the *bas-reliefs* of the tomb which I discovered and excavated at Thebes, not far from the place where the discoveries were made to which I have already alluded. It has always been accepted by Egyptologists, but without sufficient reason, that Amunoph IV and Khoun Aten were identical. It happens, however, that the owner of the tomb I have spoken of was the governor of Thebes in the time of Amunoph IV, and also during the early years of the reign of Khoun Aten, and he accordingly decorated his tomb with portraits of both the kings under whom he had served. It would be difficult to imagine a greater contrast between any two men than is here shown between the faces and figures of the two kings in question. Amunoph IV was, as you may judge from the head and shoulders I here exhibit, a stout burly personage. All the Amunophs were stout, and had also similar features and figures. Khoun Aten, on the contrary, is lean and emaciated to a degree, which almost suggests a caricature. But the difference of personal appearance is by no means the only ground on which I base my conclusions that they were distinct personages: their dress and all other surroundings, as revealed to us in this tomb, also differ entirely. The courtiers, considering that imitation is the sincerest flattery, have adopted a dress calculated to give them the same portly appearance as their master, and they are all Egyptians. Those of Khoun Aten wore a totally different dress, and were decorated with earrings, an ornament never worn by Egyptian men. Their features also are foreign, and, so far as we can judge, Semitic, as was the form of worship introduced by this king. It is to be observed that the governor of Thebes, who is represented on one side of the tomb as presenting an address to Amunoph IV, does not appear among the courtiers of Khoun Aten on the other. We see, moreover, that Amunoph IV is surrounded with all the orthodox deities of Egyptian mythology: the goddess Ma is protecting him; over his head is a prayer to Horus Ra, and Amen Ra is also mentioned in the

inscription. On the other side the only object of worship is the sun disc: all other Egyptian deities are excluded. It is to be observed, also, that the priests who chiselled out the face and figure of Khoun Aten after his death, in token of their detestation of his heresy, left untouched the legitimate King Amunoph IV. That fact alone would lead us to conclude that they were different personages; else why were they treated so differently. The only ground on which they were supposed to be identical was that at one time of his life Khoun Aten adopted and used the ovals of Amunoph IV; but that is not difficult to account for. Being a foreigner, and having no ovals of his own, he adopted those of his predecessor, as a matter of policy. Subsequently, however, he discontinued the use of them, and even here he is represented as using an oval in addition to those he had borrowed. The history of his occupation of the throne of Egypt appears to be as follows:—Amunoph III, besides his Egyptian Queen Ta-i-ti, married a Semitic princess of the name of Thy: several large scarabæi are extant—one in the British Museum—recording this marriage.

We may fairly conclude that Amunoph IV was the son of Amunoph III, by his Egyptian queen, but that he had besides a daughter by Thy: this latter fact is quite certain, because in an inscription at Tel el Amama a visit of Thy is commemorated. In this inscription Thy is described as the mother of the Queen of Khoun Aten, thus making it certain that Khoun Aten was not the son of Amunoph III, even were there no other reasons for coming to that conclusion. I may mention that Maspero is my authority for the statement I have made about the inscription at Tel el Amama, but I myself found an inscription there in which the royal daughters are pointedly mentioned as daughters of the queen, Thy attributing the royal succession to her. These daughters married Egyptian subjects, who reigned in succession in their right, and finally the sister of the queen also married an Egyptian subject. He reigned in her right, thus proving conclusively that the succession was in the queen and not in the king. The tomb of Ta-i-ti, the most prominent of the tombs of the queens, stands behind the great colossal statues of Amunoph III. I have figured this queen in my "Nile Gleanings," from a painting of her which exists in this tomb in a very perfect condition; and lest there should be any doubt that she was a queen of the eighteenth dynasty, and of Amunoph, I may mention that she wears a crown which is quite peculiar to the eighteenth dynasty, and that her costume is an exact *fac simile* of the costumes of the queen of Amunoph I, and is also peculiar to the eighteenth dynasty. I say this because I have had it suggested that Ta-i-ti may have been a queen of the twentieth or twenty-first dynasty, a theory which is quite untenable.

Mr. E. H. MAN then read the concluding part of his memoir on the Andamanese:—

ON *the* ABORIGINAL INHABITANTS *of the* ANDAMAN ISLANDS.

(Part III.) By E. H. MAN, Esq., F.R.G.S., &c.

(WITH APPENDICES A TO M).

ON former occasions we have considered at some length the physical and mental peculiarities of the Andamanese, and have discussed their various beliefs, traditions, superstitions, and customs. This evening I propose to follow them into their daily life, and to tell you of the occupations, amusements, manufactures, &c., in which they are ordinarily engaged.

Social Relations, Education, and Infanticide.—1. Although it is true that the performance of most of the domestic duties falls to the lot of the women and children, it would be a great mistake to suppose that any compulsion is used by the head of the family; he usually leads quite as active a life as any of the females, and often shares certain of their labours, when necessity arises in consequence of sickness or other cause. As I have already stated,[1] it is quite incorrect to say of these savages that with them "marriage is nothing more than taking a female slave," for one of the most striking features of their social relations is the marked equality and affection which subsists between husband and wife;[2] careful observations extending over many years prove that not only is the husband's authority more or less nominal, but that it is not at all an uncommon occurrence for Andamanese Benedicts to be considerably at the beck and call of their better halves: in short, the consideration and respect with which women are treated might with advantage be emulated by certain classes in our own land.

2. The duties of the husband,—varying in the case of his being an *ērem-tā'ga-* or an *ārȳō'to-*,—consist chiefly in hunting, fishing, turtling, collecting honey, &c., constructing canoes, building the better kinds of huts,[3] and manufacturing the bows, arrows, and other implements needed in his various pursuits; he must also assist his wife in looking after the children, in keeping up the fire, and in providing the materials

[1] *Vide* "Marriage," paragraph 1.

[2] It has been correctly stated that "their mutual intercourse is courteous and genial, and the affection between parents and children is peculiarly tender" (Peschel, p. 148).

[3] *Vide ante* "Habitations," paragraph 2.

required in making their various weapons, utensils, &c.; but though he has no hesitation in sharing and lightening his wife's labours up to this point, it is only in cases of stern necessity that he will condescend to procure either wood or water for the family requirements; the supply of these essentials of daily life being considered as peculiarly feminine duties and derogatory to the lords of creation.

3. Every woman is supposed to be a proficient in shaving,[1] tattooing,[2] and scarifying; she has also to prepare the *kòi·ob-*, *tâ·la-ōg-*, and *kâ·ngatâ-bŭg-*,[3] which are needed on so many occasions. The erection of the *chàng-dar·anga-*,[4] and the manufacture of personal ornaments,[5] and various other objects in constant use,[6] is also confined to the fair (!) sex, and when to these are added their daily duties of procuring certain kinds of food, cooking and providing the water and fuel required for the family, it will be seen that the Andamanese materfamilias—who has not several children old enough to give her material assistance—has her time fully employed, or at least sufficiently so to prevent her getting into much mischief.

4. It is the duty of those men and women who remain at home to attend to the sick, infants, and others who are in a dependent position, to look after the fires in the various huts, and, of course if needs be, to protect the property of absentees: for all those who are not physically incapable are supposed to employ themselves in some way, either for their own benefit or that of the community to which they belong.

5. It is customary for every family to maintain a supply of provisions in excess of its own requirements for the use of friends who may chance to visit the encampment; but in the storage of their food—owing probably to the ease with which it is generally procured—much is often wasted which might without difficulty be preserved. The seeds of the *Artocarpus chaplasha*, and of a species of *Semecarpus*, are alone kept for any length of time. The manner in which this is effected will be described in the section treating of "Food."[7]

6. Migrations and other events affecting the movements of a whole community are arranged by the chief and elders; women in such matters are not consulted, though while on the march

[1] *Vide ante* "Hair," paragraph 4, and *post* "Shaving," paragraph 2.
[2] *Vide post* "Tattooing," paragraph 2.
[3] *Vide* Appendix B, items 60, 58, 62.
[4] *Vide ante* "Habitations," paragraph 4.
[5] *Vide post* "Attire," paragraph 1.
[6] In Appendix B will be found detailed the various objects manufactured by both men and women.
[7] *Vide post* "Food," paragraph 32.

it is they who are expected to carry the heaviest loads: this arises from no want of consideration for the weaker vessel, but simply because, if unnecessarily encumbered, the men would be unable to shoot or pursue any animal which might cross their path.

7. Such training as the children receive is undertaken by their parents or guardians; in the case of boys it consists merely in providing them with miniature weapons suitable to their age, and instructing them in their use: as they advance in years they accompany the men in their hunting and fishing expeditions, and, being by nature intelligent and emulous, they speedily acquire sufficient skill to enable then to afford material assistance to their elders.

8. The girls, similarly, are taught by their mothers, or other female guardians, how to fulfil the various duties which are regarded as essentially pertaining to their sex, and which I have described in the foregoing.

9. It seems hardly necessary to add that the unnatural custom of infanticide is unknown to the Andamanese,[1] and though the mortality among infants is excessive,[2] it is traceable to no want of affection, but to the injudicious treatment and lavish attentions bestowed upon the little ones by their ignorant though well-intentioned elders.[3]

10. For the better security of their babies, when travelling, women are in the habit of hanging round their necks a string the ends of which have been previously fastened to the infant's wrists; the child being then placed in a *chīp-*,[4] cannot by any accident meet with a serious fall.

Attire.—1. Madame de Staël speaks of certain children being "*vêtu du climât:*" the same expressive remark may be applied to the Andamanese, for no clothing, as we understand the word, is worn by either sex; there are, however, certain so-called ornamental circlets, garters, bracelets, cinctures, and necklaces of bones,[5] wood, or shell, which are its substitute[6] and serve to

[1] The birth of a girl is usually as gratifying to the parents as that of a boy.

[2] *Vide ante* "Reproduction," paragraph 4.

[3] Dr. Day has correctly stated that "men and women seem equally fond of carrying the babies about; all pet them; when they cry for anything, they give it; and over-kindness early consigns the little one to the grave."

[4] *Vide* Appendix B, item 24.

[5] As far as we at present know, the *.jär·awa-* do not wear necklaces of bone, or the skulls of their deceased relatives. The males of this tribe wear round their heads, waists, knees, and arms, fringes of string attached to a cord or cane, which are called by the *.bŏ·jig-ngi ji-*, *bĕ·ria-* (*vide* vol. xi, Plate XXIII, figs. 13, 13*a*, 13*b*.

[6] The relatives of a deceased person will commonly wear such of the ornaments as are in good condition, "in memoriam"; this is not, however, a distinguishing peculiarity, or one confined to savages.

remove in some measure the impression that they are naked;[1] these appendages are not worn as symbols of rank or (if we except the *rō·gun-*) of status, and their manufacture devolves always upon the females of the community.

2. When fully attired[2] the men are seen with peculiar shredded bunches of *Pandanus* leaves attached to their knees and wrists (termed *tâ-chó·nga-* and *tó·go-chó·nga-*), and a folded Pandanus leaf round their heads (called *ij·i-gō·nga-*[3]), which, as well as the belt (*bōd-*[4]), is common to both sexes; if, however, they (*i.e.* the men) were denuded of one and all, they would be in no way distressed, and in point of fact, often, as while hunting, when perfect freedom of action is needed, they strip themselves of all except the *bōd-*, or other still lighter cincture, in which are inserted any portable objects, such as arrows and knives, that might be required at a moment's notice during the chase.

3. It is otherwise with women, who never[5] appear without an *ō·bunga-*,[6] or small apron of leaves, which is kept in position by the lowest *bōd-*; while men are usually content with one *bōd-* women almost invariably wear four or five, and have been seen with as many as eight round their waists: in addition to the *ō·bunga-* and *bōd-*s married women[7] wear the *rō·gun-*.

4. It seems probable that Colonel Colebrooke's remarks on the want of decency shown by the Andamanese women referred to the *·yē·rewa-*,[8] or to the tribe we now know as *jär·awa-*[9] for they alone answer to his description in going about perfectly nude: all my experience tends to prove that the females of the tribes of South Andaman are strikingly modest; indeed so particular are they

[1] As has been remarked by Peschel of other black-skinned races, their "dark colour almost removes the impression of nudity."

[2] All ornaments are made by women, whether for themselves or their relatives. Sometimes at a "*jeg-*" (*vide* Games and Amusements) females exchange their girdles (*bōd-*s) and necklaces as keepsakes.

[3] They wear no head covering, but carry a large leaf screen (*ká·pa-já·tuga-*) as a protection against sun and rain.

[4] For a complete list of personal ornaments, *vide* Appendix B, items 25 to 43.

[5] "Nudity prevails among both sexes of the Australians, the Andaman Islanders, sundry tribes on the White Nile, the Red Negroes of the Soudan, and the Bushmen, all of which tribes have as yet no sense of shame" (Peschel, p. 173).

[6] A description of these cinctures, aprons, &c., will be found at Appendix B, items 25 to 43.

[7] During pregnancy loose *bōd-*s (*bōd-lár-gō·rob-*) are worn by women in lieu of the ordinary kind, which are tight fitting; the *rō·gun-* is also discarded when it becomes inconvenient: after the birth of the child both these cinctures are resumed, the former being fastened as tightly as possible for several days.

[8] *Vide* Appendix B, item 79 and footnote.

[9] The *jär·awa-* women have hitherto been seen with only armlets and cinctures of string, to which a few short fibres were attached, obviously only for ornamental purposes.

in this respect, that they will not remove or replace their *ō·bunga-*[1] in the presence of any person, even though of their own sex.[2]

Tattooing.—1. With regard to the practice of tattooing,[3]—so general among the eight tribes[4] of Great Andaman, and which, as Peschel remarks, "is only another substitute for raiment,"—it has been erroneously asserted that its object is to "harden the skin against the stings of mosquitoes, sandflies, &c., and also for jungle travelling;" but so far from any such benefit being derived therefrom the aborigines aver that the skin becomes more sensitive after undergoing the ordeal, which is considered, primarily, as ornamental, and secondly, as proving the courage of the individual, and his (or her) power of enduring pain.

2. There are no special ceremonies connected with the operation, which, except in the northern tribes, is almost invariably performed by women, who, however, receive no remuneration, but rest satisfied with the honour of being considered competent to fulfil the task; all the sex are not equally skilled, and therefore, those who have gained distinction by former successes are, it may be said, the recognised practitioners, though no special status, or profit, in a material sense, is gained thereby.

3. Very few children[5] of either sex are allowed to remain untattooed after about the eighth year, and the final operation is often not attempted until the sixteenth or eighteenth year, the process being carried on gradually during the intervening period.[6]

4. The instrument used on these occasions is a flake of quartz, or, now-a-days, glass,[7] which is not "inserted in a stick," but held between the forefinger and thumb; the markings are found chiefly on the back, shoulders, nape of the neck, chest,

[1] The *ō·bunga-* is first worn by girls when they are about five or six years of age.

[2] *Vide ante* "Psychology and Morals," paragraph 8, and footnote.

[3] The legend explaining its supposed origin has been given in Part II. (*vide* "Mythology," paragraph 26).

[4] So far as our present knowledge enables us to say, the *jăr·awa-* do not tattoo or shave themselves (*vide* "Tribal Distribution," paragraph 2).

[5] Even in the homes the practice is still observed, and one strong-minded youth, *ī·ra-jō do-*, who has hitherto declined to undergo the operation, which he has ventured to stigmatise as unnecessary, has earned for himself the (to them) unenviable designation of "*ab-lō·ta-*," *i.e.*, the "untattooed"

[6] The arms are generally the first part tattooed, and this is accomplished *prior* to the probationary period; the back is ornamented *during* the continuance of the fast and the chest, belly, legs, &c., *subsequently*. Sometimes an *á·kà-ká·daka-*, *i.e.*, a youth about 11–12, requests that he may be tattooed on his back and on the nape of his neck before attaining the usual age; such a request from a lad is considered manly, and indeed almost heroic, for ordinarily the painful operation is postponed until some years later.

[7] *Vide post* "Stone Implements," paragraphs 6 and 7.

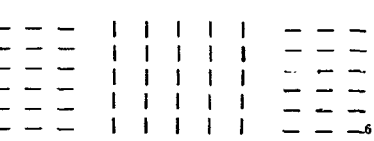
sides, abdomen, and also on the upper part of the feet and back of the hands.

5. Cicatrices are often observed on the persons of both sexes, but these are due to scarification (*tū·pke*[1]), or some accidental circumstance whereby the cut has been obliterated, or has failed to heal in the same manner as the others forming the design.[2]

6. The *.â·kà-.chârîàr-*, *.â·kà-.jär·o-*, *.â·kà-.ked·e-*, and *.ô·ko-.jū·wai-*[3] are most given to tattooing their persons, and may be specially distinguished by three rows of cuts down the back and chest: these latter marks are ordinarily much fainter than the former. Though women do the greater part of this work, the three lines down the back are almost exclusively made by some male friend with the *ē·la-*,[4] or pig arrow; except the three lines in front, the women of these tribes have no special marks, but are covered, like the females of South Andaman, with small raised cuts, which are inflicted by their own sex, with the ordinary glass or quartz flake, and not with the *ē·la-*.

7. The *.â·kà-.kól-* differ from the four tribes just mentioned, only in that they omit the centre row of the three down the back.

8. The *.bō·jig-ngī·ji-*, *.bō·jig-yâb-*, and *.bal·awa-* are covered with plain tattooing consisting merely of perpendicular and horizontal incisions all over[5] the person, thus:

 [6]

9. There is no distinction made in the mode of tattooing a chief's child and the other children of the tribe; the marks have no special significance, being merely regarded as ornamental;

[1] *Vide ante* "Medicine," paragraphs 5, 6, 12, 16 and 17.

[2] They are not raised by producing "proud" flesh.

[3] Among these tribes the first and most severe operation consists in making the three rows down the back; during the time the wounds take to heal, the patient abstains from pork, in the belief that his recovery will thus be expedited.

[4] *Vide* Appendix B, item 5.

[5] The special poss. pron. denoting the various parts of the body are also used, in connection with tattooing, to express the particular limb or member to which reference is intended; thus:—

ōt-yī·tinga-	tattooing on	chest or neck.
ig-yī·tinga-	„	arm, shoulder, or breast.
ar-yī·tinga-	„	leg.
ab-yī·tinga-	„	back, body, or thigh.
ông-yī·tinga-	„	foot or hand.
â·kà·yī·tinga-	„	side.

[6] *Vide* Plate VIII, fig 1. Where, however, it will be seen that they do not quite attain to the regularity in marking here represented by the printing press.

no coloured pigments or other preparations are rubbed into the wounds, which are left to heal of themselves: before leaving this subject I would mention that the face is never tattooed.

Painting.—1. Besides the permanent tattooing decorations, these savages employ three kinds of pigments for the further adornment of their dusky persons; and from the mode of their application it can be at once ascertained whether the individual be sick, or sorry, or whether he has taken, or is about to take, part in a merry-making.

2. No distinction with regard to rank or sex is made in the designs executed, yet, though these are not very numerous, no two persons are ordinarily painted exactly in the same way, as the pattern traced may be in one case on the chest, in another on the arm, in a third on the face, and so on; a temporary restriction is, however, laid upon the unmarried, who are not permitted to use the paint to their necks, either by way of ornament, or to relieve their pains.[1]

3. We have seen that according to their traditions[2] this was one of the arts in which *Pūluga-* instructed their first parents, and though temporarily lost after the Deluge it was revived by the accidental re-discovery of the necessary pigments: it might, therefore, be reasonably inferred that the practice is a very ancient one among these tribes.

4. The materials used are *ōg-*, *tâ·la-ōg-*, and *kòi·ob-*, which are applied, respectively, as a wash and in designs, more or less minute, with the nail or the tips of the fingers.

5. The first (*ōg-*), is a pale "olive-coloured" clay,[3] which is mixed with water and smeared thickly over the entire person with the palms of the hand, to denote mourning;[4] a lump of the same compound (*del·a-*) is also placed on the head at these times: hence the term *â·kà-ōg-*, a mourner.

6. After eating pork or turtle they are also in the habit of smearing *ōg-* over their bodies with their fingers, in the belief that it affects their breath, and that evil spirits will be unable to detect, and therefore will not be attracted to, them by the savoury smell of the food of which they have partaken. Again, when heated by travelling, or by hunting or dancing, they have recourse to the same wash, but in these cases it is applied thinly.[5]

[1] *Vide ante* "Medicine," paragraph 2.

[2] *Vide ante* "Mythology," paragraphs 9 and 27.

[3] "I may remark that the natives far West . . . . when mourning for the dead, paint the whole of the body of a white or yellow colour; while in the East of New Guinea the natives for a similar event paint themselves with black" (*vide* paper by Signor S. M. D'Albertis: "Travels in New Guinea," Journ. Anthrop. Inst., vol. vi., p. 215.)

[4] *Vide ante* "Death and Burial," paragraph 2.

[5] *Vide* "Anatomy and Physiology," paragraph 5.

7. *tâ·la-ōg-* is a pure white clay, which, being comparatively scarce, is more prized than *ōg-*, and consequently more sparingly used; it is applied ornamentally, usually with the nail of the forefinger, in fine tattoo-like patterns, to the cheeks, body, and limbs; the designs are invariably executed by women, who, when adorning their relatives[1] for a *jeg-* or other festivity,[2] vie with one another, both as regards the variety and the neatness of their work.

8. *kòi·ob-* consists of burnt yellow ochre mixed with the melted fat of the pig, turtle, iguana, or dugong, and occasionally with oil obtained from a species of almond called *ē·mej-*; this unguent is much used[3] in decorating both the living and the dead[4] and is also employed as a remedy in certain forms of suffering;[5] but it is never applied to the person when in mourning, or, as has been so often asserted, in order to protect the body from the stings of insects.[6]

9. Both *tâ·la-ōg-* and *kòi-ob-* are used to adorn their weapons and various utensils, &c., in daily use.

10. With *kòi·ob-*, of course, no delicate patterns can be worked, but rough zig-zags and stripes are made with the finger tips all over the body: judging from the appearance of a person who had been shortly before painted with *kòi·ob-*, one might easily suppose that the unguent had been smeared over his person, but this is not the case, for it is always applied in some sort of design, which, however, is speedily effaced, as the heat of the body causes the oleaginous pigment to liquify.

Shaving.—1. Under an earlier section[7] shaving was necessarily, to a great extent, included; it remains, however, to be here added that it is commenced at a very early age: indeed, within a few hours of its birth the Andamanese baby has its head shaved and painted with *kòi·ob-*,[8] while its diminutive face and body are adorned with a design in *tâ·la-ōg-*:[9] this latter, as may

[1] These substances are not employed with a view of improving the texture of the skin; they never stain their nails or apply cosmetics to their eyes to increase their lustre.

[2] Though *tâ·la-ōg-* is never used by mourners on their own persons it is always applied, as is *kòi·ob-*, to a corpse before it is interred (*vide ante* "Death and Burial," paragraph 3).

[3] The *jār·awa-* are believed to use *kòi·ob-* only for the ornamentation of their implements and weapons.

[4] *Vide ante* "Death and Burial," paragraphs 3 and 8.

[5] *Vide ante* "Medicine," paragraph 2.

[6] It may, however, be said to be used also as a perfume, for it is often applied to the upper lip after a feast on pork or turtle, as the odour of the unguent at such times is apparently particularly agreeable to them. This act of painting the upper lip with *kòi·ob-* is termed *â·kan-lē·màudike*.

[7] *Vide ante* Part I: "Hair," paragraphs 2, 3, and 5.

[8] *Vide ante* "Painting," paragraph 7.

[9] *Vide ante* "Painting," paragraph 6.

be supposed, is soon obliterated, and requires therefore to be constantly renewed.

2. Only in very exceptional cases, when the services of a woman are not obtainable, will men consent to operate upon one another, for among these savages shaving is regarded as essentially a feminine occupation:[1] the instrument used for this purpose is effective, if rude, and consists merely of a flake of quartz, or now more generally of glass; the manner in which these primitive razors are made is described under "Stone Implements."[2]

3. Previous to shaving an *infant*, the mother usually moistens the head with milk which she presses from her breast, but when operating upon bigger children and adults, water only is used.

Deformations.—1. Unless tattooing can be so regarded these savages do not intentionally produce any deformities, or practice artificial deformations in any way.[3] No attempt is made to alter the shape of the nose by flattening or pinching it, nor is the cartilaginous septum ever perforated for the purpose of inserting ornamental bars or rings.

2. In this, as in many other respects, the Andamanese differ greatly from their neighbours, the Nicobarese, who not only flatten the occiputs of their children in infancy, but, from the period of puberty, blacken their teeth,[4] and perforate the lobes of their ears to such an extent as to enable them, by the time they are full grown, to insert a wooden cylindrical instrument three-quarters of an inch thick.

3. There is, however, a deformity of the skull observable in most Andamanese women, but it is caused unintentionally, and arises from the practice, to which allusion has already been made,[5] of placing the cane or cord by which a load is borne across the anterior portion of the cranium: this habit, especially when commenced at an early age, cannot fail to produce a more or less deep indentation.[6]

[1] *Vide ante* "Social Relations," paragraph 3.

[2] *Vide post* "Stone Implements," paragraph 4.

[3] Mutilation, such as the amputation of a part, or whole, of the fingers, which is practised among certain African tribes, is quite unknown to this race, as are also the customs of circumcision and castration.

[4] "Men and women use so large a quantity of betel-nut lime and betel-leaves that their teeth are as black as ink, and the space between them being filled with that matter they appear as a solid piece, much like the horn inserted in the jaws of the tortoise" (*vide* "Notice of the Nicobar Islands," by the Rev. P Barbe).

[5] *Vide ante* "Physical Powers and Senses," paragraph 2.

[6] So strongly marked is the deformation in most cases, that the late Dr. J. Barnard Davis, being unaware of its true cause, in a letter to me on the subject, wrote as follows:—"The skull shows unmistakably that she has been subjected to the same barbarous treatment which the women among Australians have to submit to: every Australian woman's skull that I have

Weights and Measures.—1. When speaking of their physical powers I stated that 40 lbs. is ordinarily the maximum of a man's burden; but this is, of course, only an approximate estimate, for among these savages there is no recognised standard of weights or measures, corresponding to the nail, finger-joint, thumb, span, or pace.

2. In referring to the size, shape, or weight of a small object, they would, if possible, liken it to some seed, such as that of the *Entada pursætha*, or fruit, such as mangosteen, jack-fruit, or cocoa-nut; of larger weights they would say, "as much as" or "more than one man could carry" or "lift"; for expressing capacity or quantity they would say "a bucketful," "basketful," "handful," "canoe-load," as the case might be.

3. There is no prescribed or uniform size for any mat, tool, weapon, or utensil, the dimensions of each and all being dependent on the will of the maker, and on the material at his disposal.

4. No tallies are kept of numbers of articles, nor are counters such as seeds, stones, &c., employed in counting.

5. In speaking of a short distance, as, for example, 50 yards, they would compare it to "a bowshot," but in describing the distance of a certain spot it would be defined as equal to that separating two places, well known to the speaker and the person addressed; any distance over 15 miles would be said to "exceed a day's journey."

Astronomy.—1. It has been stated by Dr. Day that the Andamanese "divide the day into three portions, sunrise, mid-day, and sunset, recognising no subdivisions"; this is, however, incorrect, for though they are naturally content with a, to us, rough method of reckoning time, there are no less than thirteen periods of the day and night distinguished by definite terms, viz.:—

wâ·ngala-, the first appearance of dawn.
ela-wâ·nga-, between dawn and sunrise.
bō·do-la-dō·atinga-, sunrise.[1]
lī·li-, or *dī·lma-*, from sunrise to about 7 a.m.
bō·do-la-kâ·galnga-,
bō·do-la-kâ·ynga-, or } forenoon.
bō·do-châ·nag-,
bō·do-chà·u-, noon.

met with has borne ineffaceable marks of injuries from which the living woman has suffered during her lifetime. And this is clearly the fate of the *Mincopie* woman also."

[1] Although they are aware of the variation in the sun's position at the same hour at different seasons they do not take the fact into consideration.

bō·do-la-lô·ringa-, from noon till 3 p.m.
bō·do-lâr-dī·yanga-, or, *elâr-di·yanga-*, } from 3 p.m. till 5 p.m. } afternoon.
dī·la-, from 5 p.m. till sunset.
bō·do-la-lô·tinga-, sunset.
elâ·kà-dàu·ya-, twilight.
elâr-yī·tinga-, after dark till midnight.
gū·rug-chàu-, midnight.

2. Of the property of the sun-dial they possess no knowledge, nor can they indicate short intervals of time, such as fractions of an hour, save by some such vague term as—"wait a little" (*tô·laba !*), "it will soon be finished" (*kan·ya !*), "it is close at hand" (*wai lag·iba !*).

3. As they have no method of numeration, it of course follows that they are unable to denote the number of lunations occurring during a solar year, which with them consists of three main divisions, viz.: *pâ·par-*, the cool season; *yē·re-bō·do-*, the hot season; and *gū·mul-*, the rainy season. These again are sub-divided into twenty minor[1] seasons, named, for the most part, after various trees which, flowering at successive periods, afford the necessary sources of supply to the honey bees that are so numerous in these islands.

4. They have distinct terms for indicating the four phases of each lunation, *i.e.*:

ō·gar-dē·reka-yabā·-, new moon (lit., moon-baby-small);
ō·gar-châ·nag-, first quarter (lit., moon-big);
ō·gar-chàu-, full moon (lit., moon-body);
ō·gar-kī·nab-, last quarter (lit., moon-thin);

and that they further recognise the influence of this luminary upon the tides may be gathered from their words denoting high and low tide at full and new moon, viz.:

ō·gar-kâ·la-,[2] high tide at the springs at full moon.
yē·char-kâ·la-,[3] high tide at the springs at new moon.
ō·gar-pâ·di-,[4] low tide at the springs at full moon.
yē·char-pâ·di-, low tide at the springs at new moon.
târbō·rong-kâ·la-, flood tide at full and new moon (in the evening) from 3 to 9 p.m.
gū·mul-kâ·la-, flood tide at full and new moon (in the morning) from 3 to 9 a.m.
el·a-bū·nga-, or *kâ·la-bū·nga-*, flood tide.

[1] *Vide* Appendix H.
[2] Lit., moon-tide.
[3] Lit., dark-tide.
[4] *pâ·di* does not apparently occur alone, or in connection with any other word: its meaning may, therefore, be inferred from the context.

el·a-ē·rnga-, or *kâ·la-ē·rnga-*, ebb tide.
nó·ro-, neap tide.
tô·ya-,[1] low tide at daybreak.

5. The four cardinal points of the compass are distinguished; the names indicating these are not derived from prevalent winds, but, as far as the east and west are concerned, have reference to the sun, the word for the former signifying "the appearing face place" (*elârmū·gu-*), and for the latter "the disappearing face place" (*târ-mū·gu-*); the term for south is the "separate place" (*el-iglā·-*), while the meaning and derivation of that denoting north (*elâr-jan·a-*) is unknown to the present inhabitants.

6. For the winds, too, they have distinctive names, viz.:

châl-jō·tama-, north-west wind.
Pū·luga-tâ-, north-east wind (lit., "The Creator His wind").
dē·ria-, south-west wind.
chī·la-tâ-, south-east wind.

Of these the second (*Pū·luga-tâ-*) only, now-a-days, possesses any special significance; it is called "The Creator's (or God's) wind," because it proceeds from that part of heaven where the connecting bridge[2] between this world and the next is supposed to be situated.

7. They identify three forms of clouds, and indicate them thus:

tô·wia-, cumulus.
ara-mū·ga-bar·nga-, stratus.
yūm-li-dī·ya-, nimbus.

8. Of all the stars and constellations Orion's belt alone is found to bear a name (*bē·la-*), but this is not to be wondered at, as they never venture upon any distant voyages, and do not therefore experience any necessity for studying the bearing of the various planets and constellations at different seasons, or for distinguishing them by name. Their astronomical observations have, however, extended to the discovery of the milky way, which they call *ig-yō·lowa-*[3], and poetically describe as the road used by the angels (*nô·rowin-*).[4]

Trade, Exchangeable Values and Property.—1. It is evident, from the accounts of various writers, that for many years prior to our present occupation, these islands were visited by trading vessels manned by Malays, Burmese, and Chinese, who were *said* to traffic with the Andamanese for edible birds'-nests and *bêche de*

[1] *Vide post* "Hunting," paragraph 39 (footnote).
[2] *Vide ante* "Religious Beliefs," &c., paragraph 25.
[3] The Chippeways call the milky way "the path of the ghosts" (*vide* "Travels in the Interior of North America," by Maximilian, Prince of Wied).
[4] *Vide ante* "Religious Beliefs," &c., paragraph 9.

mer;[1] but it seems more than probable that they obtained their supplies without any assistance from the aborigines; their visits were, moreover, in later years attended with considerable risk, owing to the malpractices of some of the traders in kidnapping such of the race as they could entice on board their vessels, for the purpose of carrying them away into captivity.

2. Even at the present day, with the exception of procuring turtles, shells, honey, bows, arrows, and a few other articles which are sold, for their own benefit, by the inmates of the homes in and near the harbour, to visitors and residents at Port Blair, the natives attempt nothing in the way of trade, and this much is only done by dint of constant inducements being offered in the shape of presents of tobacco, files, &c.[2]

3. Of our imports they prize chiefly:—dogs, iron, bottles, tobacco, pipes, and matches, all of which have for many years past been freely distributed among the coast people throughout Great Andaman, by whose means they have, doubtless, either by barter or in the form of presents, reached many of the communities inhabiting the interior.[3]

4. In respect to barter, in their transactions with each other, some weapon, utensil, or other common article, such as *kòi'ob-*, or *tâ'la-ōg-*[4] (used for painting[5] their persons and for general decorative purposes), serves as the medium of exchange.

[1] Captain J. H. Miller, in a communication to the Nautical Magazine, 1842, says: "The islands in the west side of the Andamans are frequented during the fine season, from December to April, by a mixed and mongrel race of Malays, Chinese, and Burmese fishermen for *bêche de mer* and edible birds'-nests, who are of very doubtful honesty; and it is necessary to take a few muskets and cutlasses, just to show them that you are prepared for mischief in case of need. These fellows are also 'fishers of men,' and to their evil deeds much of the hostility of the islanders may be attributed; they carry off children, for whom they find a ready market as slaves in the neighbouring countries. I have been told that formerly they were friendly, and assisted these fishermen, until a large party was invited on board a junk or prow (the Chinese got the blame of it), and after being intoxicated, were carried off and sold at Acheen; and the practice is still carried on by these fellows, who land and carry them off whenever they can catch them. The Andamanians have retaliated fearfully whenever any foreigner has fallen into their power, and who can blame them?" (Sailing Directions for the principal ports in the Bay of Bengal, by W. H. Rosser and J. F. Imray).

"Formerly, both Malays and Burmese procured at the Andamans a considerable quantity of these nests: collecting them themselves, or receiving them from the islanders in exchange for their tobacco, &c." ("Notice of the Nicobar Islands," by the Rev. P. Barbe).

[2] Spiritous liquors would serve as the most powerful medium in this respect, but, in view of the certain and great mischief which would result from gratifying their innate liking for alcohol, it has been rarely given and then only in small quantities medicinally, or by a few persons who are indifferent or ignorant as to its ill effects.

[3] *Vide* Part 1.

[4] *Vide* Appendix B, items 60 and 58.

[5] *Vide ante* "Painting," paragraphs 7, 8, 9, and 10.

5. They set no fixed value on their various properties, and rarely make or procure anything with the express object of disposing of it in barter. Apparently they prefer to regard their transactions as presentations, for their mode of negociating is to *give* such objects as are desired by another in the hope of receiving in return something for which they have expressed a wish, it being tacitly understood that, unless otherwise mentioned beforehand, no "present" is to be accepted without an equivalent being rendered.

6. The natural consequence of this system is that most of the quarrels which so frequently occur among them originate in failure on the part of the recipient in making such a return as had been confidently expected.[1]

7. All iron-pointed weapons, tools, or shell ornaments are eagerly accepted by the *ē'rem-tâ'ga-* in exchange for such things as are more easily procured by them than by the *àryô'to-*:[2] for instance, an adze would generally be considered worth two ordinary bows, or a bundle of wooden-pointed arrows; or a man might undertake to make a canoe or bucket for one who would give him an adze.

8. But little care is taken of the utensils, weapons, canoes, &c., in daily use, and consequently new ones are often required, the old, when no longer serviceable, being thrown aside; as all their possessions consist of goods which need to be more or less frequently replaced, it is hardly necessary to explain that there is no accumulation of the labours of former generations; hence also it arises that they are not tied by any laws of inheritance; more as a matter of sentiment than for any other reason, the nearest of kin takes possession of all the effects left by a deceased person, and as often as not they are distributed ere long among such friends as may be in need of any of the articles in question.

9. The weapons, tools, and other property pertaining to one member of a family are regarded as available for the use of his or her relatives, but such articles as a cooking-pot, canoe, or sounding-board, when not required by the owner, are looked upon somewhat in the light of public property by members of the same community; in short, the rights of private property are only so far recognised that no one would without permission appropriate or remove to a distance anything belonging to a friend or neighbour.

Agriculture.—1. Before the arrival of strangers in their midst,

[1] *Vide post* "Games and Amusements," paragraph 37.

[2] Further mention of this will be made at "Games and Amusements," paragraph 24. As will there be explained the occasions on which they usually barter are when they meet for a *jeg-* at some permanent encampment.

the Andamanese were entirely ignorant of agriculture, and to this circumstance is primarily to be attributed their degraded condition, while it also affords evidence of the same.

2. Notwithstanding the ample opportunities that they have now had of observing the benefits derived from cultivation, and though they undoubtedly prefer such products to the spontaneous vegetation of their jungles, they still consider that the exertion necessary to obtain the former far outweighs every advantage; in short, it is their opinion, that "*le jeu ne vaut pas la chandelle.*"

3. We must not, however, lose sight of the fact that, as they have hitherto seen only prisoners engaged in tillage, they cannot but be strengthened in the objections entertained by most savages to all such labour, regarding it as a degrading occupation, and fit only for such as have forfeited their freedom.

4. Further, to quote from Peschel, "it must be remembered that hunting affords supreme enjoyment, and that agriculture has nothing to offer in compensation for the excitement and delights of the chase."

Training and Domestication of Animals.—1. Prior also to our occupation of these islands, the Andamanese, as will have been already inferred,[1] possessed no dogs, and it was some time (1865) before they became aware of their usefulness in the chase; but now that the intelligence of certain breeds has been proved, they prize them highly, and eagerly accept any we have to give them; at the same time, though treated with every intentional kindness, and allowed to sleep, and even to eat and drink out of the same vessel as their masters, the training to which the dogs are subjected is very severe, and their attenuated condition bears witness to the state of semi-starvation in which they are commonly kept in order to render them the more keen in hunting. The custom of summoning dogs by whistling has of course been borrowed from ourselves, as is also the practice of naming them; "Jack" or "Billy"[2] are the names generally bestowed by these people upon their canine companions, whom also they address as *ligʻala* (children), and who in their turn seem greatly attached to their new owners, and testify their affection by attacking all strangers, not being aborigines, who approach the encampment to which they belong.

2. It is regarded as a good omen to meet certain birds, while of others the contrary belief is held;[3] the absence of migratory

[1] *Vide ante* "Trade, Exchangeable Values," &c., paragraph 3.

[2] They sometimes nickname them as follows:—*bīʻbi-baʻratnga-* (lit., dog-mottled), *bīʻbi-ngáʻnanga-* (lit., dog-beggar), *bīʻbi-taʻtūʻpanga-* (lit.. dog-bone-crusher), *bīʻbi-taʻtēʻrâwa-* (lit., dog-yellow), *i.e.*, according to any peculiarity that may distinguish them.

[3] *Vide ante* "Superstitions," paragraph 22.

species at certain seasons is now accounted for by saying that they are visiting some of the adjacent isles.

3. Of mythological animals,[1] such as dragons and unicorns, they have no knowledge, nor do they venerate or regard as sacred any quadruped, bird,[2] or fish, even though the names of several are identical with those borne, according to tradition, by their antediluvian ancestors,[3] who are supposed to have been transformed into, or to have assumed the forms of, such creatures. Beyond the instances already mentioned, no trace can be found of a belief in transmigration, and, now-a-days at all events, the souls of animals and men are not considered by these savages as interchangeable.

4. The names of four animals only appear to have originated in their cries, viz.: *dū·ku-* iguana, *mū·rud-* pigeon, *bī·bi-* dog, *rō·go-* pig ; of these the dog only is trained, or in any way domesticated, and they do not, as has been supposed, keep poultry.[4]

Food.—1. Among the many erroneous statements regarding the life and habits of these islanders, none seem at the present day so devoid of foundation as that which declared that they are constantly reduced to want and even to starvation.[5]

2. It has been conjectured by some writers that these savages "glean a miserable subsistence," judging, it would seem, merely from the fact of their eating the larvæ of beetles,[6] and certain other articles, the predilection for which seems, to civilised palates, equally revolting ;[7] but evidence is not wanting to disprove this assumption, for during the season, when such things are obtainable, they may frequently be seen enjoying a handful of cooked larvæ when a quantity of pork or turtle is lying beside them, and, if questioned, they declare that they regard the former as dainties (*á·kà-rá·rnga-*), and eat them as

[1] The legend regarding the *ū·chu-* can hardly be included in this category (*v de ante* "Mythology," paragraph 29).

[2] *Vide ante* "Mythology," paragraph 16 (footnote).

[3] *Vide ante* "Mythology," paragraph 29 (footnote 2).

[4] "They have no dogs nor any domestic animals, unless indeed their poultry may be regarded as such" (Lubbock, "Prehistoric Times," 4th edition, p. 450).

[5] "In tempestuous weather they are reduced to the utmost want, feeding on rats, lizards, and snakes, and perishing when these resources fail" (Grant). "In the jungles, beyond a few berries and the wild hog, there was no food to be found" (de Rœpstorff).

[6] The Looshais, however, appear to be even less fastidious, for they are said to "eat everything that flies, runs, crawls, or creeps, as well as the grub in its ante-natal tomb" ("On the Looshais or Kookees," *vide* "Journ. Anthrop. Inst.," March, 1873).

[7] "Nor are civilised Europeans justified in shuddering . . . . when they themselves do not shrink from the trail of snipe, nor from lobster and crayfish, although the latter, as water scavengers, act both as grave-digger and grave" (*vide* Peschel, p. 159).

such, not because they find any difficulty in procuring other food.[1]

3. Both *àryô to-* and *ē·rem-tâ·ga-* find ample[2] provisions for their simple wants in their immediate surroundings, without exerting themselves to any great extent, and their eagerness in the chase is induced almost as much by actual love of sport as by the necessity of obtaining food: were this not the case they would hardly be found spending so much time in dancing and singing, in personal decorations, and in the preparation of their meals, while they reject with aversion anything that has become at all tainted. Further, it may be fairly estimated that one-third of the food daily consumed by them consists of edible roots, fruits, and honey, and the remaining portion of the flesh of one or more of the following, viz.: pig, paradoxurus,[3] iguana, turtle, fish, and molluscs, with rare additions of pigeons and jungle fowls;[4] Flying-foxes, bats, rats, sea- (not land-) snakes, the larvæ of the Great Capricornis beetle (*Cerambyx heros*) called *òi·yum-*,[5] as well as two other insects, called *bū·tu-* and *pī·rigi-*,[6] are, it is true, also eaten, but they are partaken of by way of variety, and the latter are regarded as luxuries (*â·kà-râ·rnga-*, tid-bits) to supplement (not substitute) other fare.[7]

4. The Andamanese are nominally content with two meals a day, viz.: breakfast (*â·kà-nâ·-*) and a heavy supper (*â·kan-gō·lajnga-*) after sun-down; they will, however, often help themselves to small quantities of food from time to time in the course of the day when engaged on any work; and, when leaving on a

[1] "It cannot be wondered at that these savages love the unfettered life of their own wild jungles, where their simple wants are easily supplied—a lean-to serving them for quarters, and food such as they are accustomed to being found in great abundance. Nothing comes amiss to an Andamanese maw; roots, wild fruits, berries, crabs, clams, fish, wild pigs, and turtle are all ravenously devoured, and a glance at the well-nourished bodies of men, women, and children amply convinces one that they do not starve" (*vide* "Bombay Gazette," 2nd August, 1881: "The Andamans, our Indian Penal Settlement"; *vide* also paper by Professor Owen, F.R.S., "On the Psychical and Physical Characteristics of the Mincopies," Report of British Association, 1861, p. 246.)

[2] *Vide* "Tribal Communities," paragraph 2, and Appendix F. (*Wō·i*'s statement).

[3] It is presumed that Dr. Day refers to this animal when he states that "they eat cats," for they do not appear ever to have had any fancy for the flesh of *pū·chī*, the name they have adopted for the domestic cat, from the English "pussy."

[4] *Vide* "Tabu," paragraph 2 (footnote).

[5] Probably the "fat grub, about three or four inches long, much relished by the natives" (Australians), mentioned by Mr. H. W. Bates, in his "Illustrated Travels," is identical with the *òi·yum-*.

[6] The *bū·tu-* is found in rotten logs of jungle trees, especially the *Dipterocarpus laevis* (*á·rain-*), *Gluta longipetiolata* (*já-*), and *Chickrassia tabularis* (*ó·ro-*).

[7] Their fancy for grubs does not extend to the *Teredo navalis*.

day's hunt, they usually provide themselves with some fire and a *gōb-*[1] of food, which they warm up and enjoy about midday:[2] no difference is made between the sexes, but all fare alike.

5. The average amount eaten by an Andamanese adult appears to exceed that of a native of India, and to average three or four pounds daily, while, like many other savages, after a successful hunt, or on some special occasion, when dancing is carried on through the entire night,[3] the consumption of food is surprising, and has, in some instances, been estimated at upwards of ten pounds of pork, or turtle, in the twenty-four hours, helped out by mouthfuls of some one or more of the delicacies above enumerated.[4]

6. As may be assumed from foregoing sections, caste distinctions are unknown; while, however, all members of a family take their meals together, a married man is only permitted to eat with other Benedicts and bachelors, but never with any women save those of his own household, unless indeed he be well advanced in years. Bachelors as well as spinsters are required to take their meals apart with those of their respective sexes.

7. Their mode of eating meat is to cram a large piece into the mouth, and then to cut off whatever is in excess[5] with a bamboo or cane (now-a-days generally a steel) knife. The same custom, carried to a more disgusting extreme, is found among the Esquimaux.[6] Speaking generally of the Andamanese it may be said that water is their only beverage, for though the aborigines in the vicinity of Port Blair have acquired a strong liking for rum, &c., they have not been permitted to gratify it; if very thirsty while on a fishing expedition, and all the fresh water supply be exhausted[7] the *àryô·to-* pour water over their

[1] *Vide* Appendix B, item 82.

[2] This applies to the meat of the turtle, pig, iguana, and paradoxurus; the remains of a feast of fish, shell-fish, and prawns are not warmed up a second time; a further distinction is made in the case of turtle's eggs, the three insects mentioned in paragraph 3, edible roots, and such fruits as are cooked (*vide post* paragraph 19), for these are left to cool before they are eaten.

[3] *Vide* "Games and Amusements," paragraphs 21 and 22.

[4] *Bêche de mer* and edible birds'-nests, so highly esteemed by some, and of which large supplies are obtainable along their coasts, are not regarded by the Andamanese as fit for food.

[5] For the following note, which refers to a similar practice among the Napo-Indians of South America, I am indebted to Mr. W. L. Distant:—"In eating meat (usually monkey, sea-cow, and peccari) we observed that they did not tear or bite it, but, putting one end of a long piece in the mouth, cut off what they could not get in, as Darwin noticed among the Fuegians" (Jas. Orton: "Andes and the Amazon," p. 168).

[6] *Vide* Lubbock's "Prehistoric Times," p. 486.

[7] They will now-a-days occasionally assuage their thirst, when away from home, by cutting off a piece of ground rattan (*bôl-*); this practice is only known to the people of South Andaman, and has been borrowed from the Burmese convicts.

heads or jump overboard, and even at times try to alleviate their sufferings by swallowing salt water.[1]

8. In opening certain shell-fish[2] the adze is not employed, but one of the valves of the *Cyrena* is dexterously inserted between the lips, which are thus forced apart, after which the fish is killed with a knife or bladed arrow, and boiled; the *Tridacna crocea* and *Tridacna squamosa* are opened by inserting a piece of wood as a wedge between the valves,[3] afterwards the fish is despatched by stabbing it with an arrow point or blade; the various *Arca* species and the *Mytilus smaragdinus* are, however, not so treated, but are placed among a heap of burning logs for a few moments, the object being merely to part the valves, which would otherwise be a matter of some difficulty: when this is accomplished the shells are removed by means of the bamboo tongs (*kai-*[4]), and their half-cooked contents are transferred to a pot[5] (*būj-*) in which a little water has been placed; after being boiled a short time the gravy and flesh are eaten with the help of the shells. In former times oysters were eaten *cooked*,[6] but now their consumption appears to be confined to the inhabitants of North (and possibly also Little) Andaman: they give no reason for this change, but it may be due to their having occasionally suffered by feasting unconsciously on the poisonous, or at least indigestible, variety so commonly found in the mangrove swamps.

9. Dr. Day remarked that the mullet was their favourite fish, and "one day, having placed a quantity of different species before them, they helped themselves in the following order: . . . . *Chorinemus, Platycephalus*, horse-mackerel or *Caranx, Chrysophrys calamara*, and lastly *Tetrodon* or frog-fish, which latter has generally the credit of being poisonous." My experience is that there are apparently no fresh-water, and but few salt-water, fish[7] which they will not eat.

10. It is a mistake to suppose that pigs are ever scarce in these islands, for though it was formerly more difficult than at the present day to shoot them, there is no lack of evidence to

[1] *Vide ante* "Medicine," paragraph 4.

[2] Viz., those of the *Pinna* and *Cyrena* species.

[3] This is only attempted when they succeed in surprising the fish before it has time to close its valves.

[4] *Vide* Appendix B, item 80.

[5] *Vide* Appendix B, item 18. [Note.—Water is boiled in a *būj-* by the ordinary process, and not by heated stones being dropped into it.]

[6] That Europeans should swallow these molluscs *raw* is a matter of considerable surprise to them.

[7] They prefer the fleshy part of the head to any other portion. To cut up a fish is termed *chô lke*, while to remove its head, tail, and entrails is styled *arwá·gke*.

prove that they are, and always have been, fairly numerous.[1] The pig hunts are most frequent during the rains, not only because these animals are then more plentiful and in better condition, but because it is no longer the *râp-wâb-*, or season of abundance of jungle fruit and honey; from this, however, it must not be inferred that scarcity is then experienced, for those who choose to help themselves need never be in want.

11. During the cool season, *pâ·par-wâb-*,[2] the people themselves are alleged to become noticeably thinner: this they attribute not to a deficiency of food, but to the meagre condition of the pigs, which are then breeding, and to the fact that the edible roots (or yams), and other fruits then in season are not fattening. There are six varieties of esculent roots, viz.: the *gō·no-*, *châ·ti-*, *kâd-*,[3] *bō·to-*, *mal·ag-*, and *tăg·i-*, which are eaten alone (preferably cold), and not with meat; their chief difference consists in the extra care in preparation which some require, in consequence of their very acrid flavour.

12. The *gō·no-* is cooked in three ways: (*a*) it is placed on the fire in the condition in which it is found until it is soft, when it is freed from the burnt earth and eaten; (*b*) the root, after being washed, is cut up into small pieces and boiled in a pot; and (*c*) after being washed and cut up the pieces are wrapped in large leaves and baked on burning logs.

13. The *châ·ti-* is cooked in the first of the above-mentioned methods, or by surrounding it with hot stones,[4] and covering the whole with leaves and weights, in order to confine the heat as much as possible.

14. The *kâd-* is first cooked as found, the skin is then peeled off, and a number of thin slices are cut and placed in water for a couple of days, so as to lessen the bitterness of its flavour; afterwards it is either baked in leaves or boiled, as already described in speaking of the *gō·no-*.

15. The other three varieties are never boiled, but are placed on the fire without leaves, and the outer skin is removed before they are eaten.

16. The seed of a species of sea-weed, known to them as *tô·no-tòng-*, on which turtles and dugongs feed, and which can only be obtained in small quantities, is carefully cooked and eaten as a relish.

[1] In his examination of a kitchen-midden near Port Blair harbour, the late Dr. Stoliczka recorded that "the large number of bones of the Andaman pig is remarkable."

[2] This is the period between the rains and the dry season, and lasts about ten weeks, between the middle of November and the middle of February.

[3] *gō·no-*, *châ·ti-*, *kâd-*, are very plentiful during the cool season, and are much relished.

[4] *Vide post* "Stone Implements," paragraph 1.

17. The fruit of three varieties of mangrove,[1] known to them as *jū·mu-*,[2] *ngâ·tya-*, and *bâ·taga-*, are occasionally eaten, but only by way of change; they are prepared like the *kâd-* (*vide* above).

18. The following table contains a fairly complete list of the different kinds of food eaten by the Andamanese during the varying seasons of the year; their ordinary diet, as will be gathered from the foregoing, consists of pigs,[3] paradoxurus, iguanas,[4] eggs of the hawkbill turtle, turtles, shell and other sea-fish and prawns, with occasional treats of dugong and porpoise,[5] and for married persons certain birds, already named: the fruit of the *Pandanus* and black honey must also be added, besides which, during the dry season, fresh-water fish, shell-fish, eggs of the green turtle, honey, the bee-bread, and that portion of the comb in which the larvæ are found, as well as the *Caryota sobolifera*, yams and numerous fruits, about to be named, are eaten with great relish; while during the rains they vary their fare with preserved seeds of the *Artocarpus chaplasha*, *Semecarpus*,[6] and the fallen seeds of the *Entada pursætha*,[7] with three grubs, viz.: the *bū·tu-*, *pī·rigi-*, and the larvæ of the Great Capricornis beetle (*ôi·yum-*), and certain fruits. Although on one occasion I saw a man (a member of the *Â·kâ-.ked·e-* tribe) actually eat an *ôi·yum-* alive (!) their usual practice is to collect a quantity of the above-named insects and to wrap them up in leaves and place them on the burning embers, turning the bundle from time to time, so that its contents may be thoroughly cooked, whereupon, in the case of the *bū·tu-*, after breaking off the tails, they are consumed with evident gusto.[8]

19. The native names[9] of most of the fruits in season during the dry (*a*), wet and cool (*b*) months are:—

[1] Some terrible calamity, such as another Deluge, would result, so they say, from any one rashly presuming to taste the fruit of a certain species of mangrove, called *tô·kal-*.

[2] *Bruguiera gymnorhiza.*

[3] Not only are the sows eaten when with young, but even their unborn litter is not rejected.

[4] Iguanas and paradoxuri are in better condition during the rains, and are consequently more eaten at that season.

[5] There are special restrictions connected with eating either the dugong or porpoise for the first time (*vide post* "Tabu," paragraph 2).

[6] *Vide* paragraph 32.

[7] *Vide ante* "Religious Beliefs," &c., paragraph 12.

[8] The *ôi·yum-* is found in newly fallen logs, and they say that they do not treat it like the *bū·tu-*,—viz., in breaking off its tail—because it does not live in such rotten Gurjon trees.

[9] The botanical names of most of these, as well as of many others, will be found in Appendix L.

(*a*)

*‡*mâng-* } either cooked
*‡*ît·til-* } or uncooked.
dō·gota-
jâ-
ū dala-
kôn-
§*chû·kan-*
**bō·to-kô·ko-*
kū·nra-
§*pū·lia-*
§*pū·lain-*
**pī·dga-*
§*gel·dim-*
**ô·rta-tât-*
**†§chaij-*
kär·ega-
ūd-
§*ñgē·bēr-*
§*ē·mej-*
**eng·ara-*
§*lō·gaj-*

(N.B.—The best fruits, and those which are most abundant, are in season during these months and at the commencement of the rains.)

(*b*)

†*ô·ropa-*
§*pâ-*
**†kai-*
†§*kai·ta-*
†*chôb-*
†*ô·dorma-*
**â·bnga-*
§ { *jū·mu-*, *ngâ·tya-*, *bâ·taga-* }
**kâ·pa-*
pī·cha-
§*pai·tla-*
**kär·ed-*[1]
§* *jang·ma-*[2]
**jī·ni-*
†*pū·ta-*
**pôr-*
**âm-*
**†mū·twin-*
tâ tib-
**eng·ara-*

During the *pâ·par-wâb-* (cool season) and *yē·re-bō·do-* (dry months) the six varieties of edible roots mentioned above (*vide* paragraph 11) are also eaten.

(It will be understood that those fruits that are unmarked in the above list are eaten in the ordinary way).

20. Many fruits they merely suck for the sake of the flavour;[3] others are eaten with fine wood ash,[4] taken from the hut fires *in lieu of sugar*, to diminish their extreme acidity,[5] while a few are cooked,[6] and the stones of several[7] are cracked for the sake of their kernels. The favourite fruits are *dō·gota-*, *ô·ropa-*, *kôn-*, *chôb-*, *jâ-*, *pâ-*, *kai·ta-*, *kär·ega-*, *chû·kan-*, *jū·mu-*, *ngâ·tya-*, *bâ·taga-*, *ñgē·bēr-*, *pū·lia-*, and *pū·lain-*.

21. The fruit of the *ñgē·bēr-*, *chû·kan-*, *pū·lia-*, *pū·lain-*, *pai·tla-*, *gel·dim-*, *lō·gaj-*, and the seeds of the three above-named varieties of mangrove (*i.e.*, *jū·mu-*, *ngâ·tya-*, and *bâ·taga-*), are freed from their husk or rind and boiled in water until quite soft; when cold they are cut in slices, and left to soak for two days or more in salt or fresh water, after which they are baked in leaves, or again boiled in a *būj-*.

22. The Andamanese are, now-a-days at least,[8] extremely particular over the cooking of their food, and will not eat certain

[1] This is a small yellow fruit, the seed of which, after being sucked, is broken, and the outer portion eaten while the kernel is thrown away.

[2] This is a small red fruit, about the size of a bean or filbert, containing one stone; it is wrapped in leaves and baked, because they say that if eaten uncooked it would cause them to forget their way in the jungle, as well as entire loss of memory on all points.

[3] These are marked in the preceding paragraph by a *.

[4] Their immunity from scurvy may not improbably be due to the chemical combination of the acid, contained in many of the fruits, with the potash of the burnt wood.

[5] These are marked in the preceding paragraph by a †.

[6] These are marked in the preceding paragraph by a §.

[7] These are marked in the preceding paragraph by a ‡.

[8] They are very expert in spearing their fish, which they consume in a half-cooked state (Anderson); Symes also writes that "they throw the food on the fire, and devour it half broiled."

fruits and vegetables, much less fish, flesh, or fowl that is raw,[1] or, as far as I could ascertain, even underdone.[2]

23. On ordinary occasions the meals are prepared by these estimable wives in the absence of their lords, but when their labours in procuring wood and water are exceptionally heavy, as on gala days, or after a very successful hunt, the cooking is performed in the special fire-place[3] set apart for the purpose in each community, by some male volunteer, who, when the meat is partly done, distributes[4] it among those present, leaving them to complete over their own fires the necessary preparation of their several shares.[5]

24. Sometimes it happens that the animal is cut up and distributed without being even partially cooked, but the person undertaking this duty is under a tacit obligation to help the slayer of the animal and himself to the last two portions.

25. Small pigs, if caught alive, are sometimes kept and fattened up (*chī·lyuke*) for slaughter;[6] with these, as with others killed while hunting, the same system is observed: the entrails, lungs, liver, kidneys, &c., are first removed (*jō·do-lòi·chrake*), and replaced by leaves (*kō·ktár-râ·mke*), to which they set fire—care is always taken to select such as, being entirely free from scent and taste, will not affect the flavour of the meat—the object of this is that all parts may be equally heated when the carcass is placed on the burning logs, where it is left, not until thoroughly

[1] A recent writer (*vide* "Bombay Gazette," May 24, June 7, July 1, July 5, August 2, 1881), in giving an instance of the skill of these savages in shooting fish affirms that he observed "that most of these fish were just scorched on hastily-lit fires and devoured at once half raw, care being taken that the children present (there were no women) had their full share of the spoils." I am, nevertheless, sure that he is mistaken in supposing that the fish were otherwise than thoroughly cooked, for besides having made close observations myself at the homes, on the point in question, I have made careful inquiries of the aborigines, who assure me (as do also the Hindustani attendants, who have paid numerous visits to the tribes in Middle Andaman) that they never eat fish, flesh, or vegetable until it is thoroughly cooked.

[2] Exception, however, must be made in regard to turtles' eggs, which are eaten with other food or alone, as the case may be, and which, though preferred soft boiled, are sometimes eaten raw: they are among the articles of food proscribed to an *â·kà-yâb-*. Dr. Day says he has seen them "cook a prawn by placing it inside the bowl of a pipe which they had been smoking!"

[3] This is generally an open space at one end of the encampment. [The *jär·awa-* have a separate hut, which is used exclusively for cooking purposes.]

[4] The "cook" is under an obligation to taste a morsel before all present; should the chief happen to be there he receives the first and lion's share; after him all the men are helped, and then the women and children, while the remainder falls to the share of the distributor.

[5] During the process of cooking all that the Andamanese Soyer requires in the way of impedimenta are a skewer, *châm*, and a pair of bamboo tongs, *kai-* (*vide* Appendix B, items 70 and 80)

[6] If the pig should die a natural death while being thus kept it would be eaten, unless visibly diseased.

cooked, but until the bristles have been singed and the skin dried sufficiently to allow of the dirt adhering to it being scraped off; this done, the remains of the charred leaves are removed, and the tendons at the joints being severed (*pū·nuke*), the carcass is cut up (*wâ·ratke*) and distributed; while thus engaged, the operator not unfrequently helps himself to choice morsels which he may chance to find done to a turn, as his perquisite. The lining and flesh of the stomach are usually first disposed of;[1] the skin of the entrails, after being thoroughly cleansed, is also frequently consumed.

26. From the account given under "Initiatory Ceremonies"[2] it will be seen that the kidney-fat and omentum (*reg-jŭ·ri-*) are considered as luxuries from which the young of both sexes must abstain during a certain period. The lungs, liver, and eyes are also eaten, and they are quite of a mind with the Chinese in their estimation of "crackling"[3] (*ōt-â·gam-*, also *ōt-gō·ma-*), which they consider one of the choicest parts, and enjoy so much that they are even willing to run the risk of offending the *chôl-*[4] by baking their pigs, rather than eat them boiled.

27. When, from some circumstance or other—such as possibly a death from sunstroke[5]—the dread of these demons is paramount, and they boil their pork, it has been observed that, as their pots are small, they remove each piece when partially cooked to make room for others, which afterwards, in the same way, are in turn replaced until thoroughly done; the reason given is that the flavour of the whole animal is thus equally distributed in every portion. On other occasions, when the pig is not broiled whole on burning logs, or apportioned among the several families of the community for cooking in their own huts, the flesh is baked in leaves by means of heated stones (*lâ-*), which are placed between alternate layers of the meat; in every case the chief concern appears to be that the whole should be so wrapped in leaves that none of the juices be dried up, though every portion be thoroughly well done.[6]

[1] Experience and inquiries have alike failed to find an explanation of the following peculiar statement made by Dr. Day:—"The children and weakly persons eat sucklings, the bachelors and spinsters use those of medium size, whilst adults prefer the stronger boar."

[2] *Vide* paragraphs 15–17.

[3] The skin of the iguana is also eaten, but that of the *paradoxurus* is thrown away.

[4] *Vide ante* "Religious Beliefs," &c., paragraph 15.

[5] *Vide ante* "Religious Beliefs," &c., paragraph 16.

[6] In this respect they differ much from the Australians, who "never take the trouble to cook their food, but merely tear off the interior skin of the animal, and, after holding the body over the fire for a few minutes, eagerly devour it in its uncleaned state, and frequently eat so voraciously as to be in a state of inactivity and torpor for several hours afterwards" ("A Ride across the Frontier of Victoria," by P. H. Eagle).

28. For brains and marrow they have a great *penchant*, and, in order to extract the latter, will often crush the smaller bones with their teeth, while they break up the larger ones with a stone hammer.

29. The blood of the turtle only are they careful not to spill,[1] and this, though not preferred to the flesh, is considered a dainty, and is eaten separately, after it has been boiled in its own shell until quite thick.

30. They do not preserve the carapace of either description of turtle, but, having removed the flesh, place the shell over the fire, that all the remaining fat may be melted, when—with an appreciation worthy of a City alderman—they ladle it into their mouths with *Cyrena* shells, which thus serve as spoons. So great a delicacy do they consider this that the shell is finally broken up and divided, that no particle may be lost! This fat is largely used in the manufacture of *kòi'ob-*, and it may be judged how highly they prize the unguent since they are willing to deny themselves this dainty rather than allow their supply to run short.

31. Food is preserved by placing it on the small grating (*yât-leb-tâ-ga-*)[2] above the hut fire,[3] or in the following rather peculiar fashion:—having procured and cleaned a length of bamboo (*fem. sp.*), they heat it over a fire that the juices contained in it may be gradually absorbed. When this is satisfactorily accomplished, half-cooked pieces of pork, turtle, or any other food,[4] are packed tightly into it, and the vessel is again by degrees put over the fire, in order to heat it slowly, lest the rapid expansion of the meat should cause a crack; when steam ceases to issue forth, the bamboo is taken off the fire, and, after the opening has been closed by leaves, is set aside with its contents until a meal is required, when it is replaced on a fire, for, as I have remarked in another place, it is a peculiarity of these savages to eat their food in an almost boiling state.[5] As soon as the meat has been once more thoroughly baked, the bamboo is split open with an adze or other

[1] To kill a turtle they pierce the eye with a skewer or arrow (*ï'dal jë'ralike*); when the flappers and belly-shell are removed (*tô'latke*), the animal is cut up (*wâ'ratke*) prior to distribution.

[2] *Vide* "Habitations," paragraph 5.

[3] Jean de Lery, in the account of his adventures among the Indians of Brazil (about 1557), describes the "wooden grating set up on four forked posts; . . . and as they did not salt their meat this process served them as a means of keeping their game and fish."—(E. B. Tylor's "Early History of Mankind," p. 262.)

[4] They have not acquired a liking for either beef or mutton, but are very fond of fowls, rice, dhall, sugar, and sweets of all kinds; it is strange, therefore, to find in Colonel Tickell's paper that "fish they were indifferent to, also to rice."

[5] *Vide ante* "Anatomy and Physiology," paragraph 8.

implement, and all take a share in the feast.[1] Meat thus prepared will keep good for several days.

32. I alluded just now to their method of preparing the seeds of the *Semecarpus* and *Artocarpus chaplasha* for consumption during the rains; it is as follows:—The outer husk, or skin, having been removed, a quantity of the fruit is placed on a wooden platter, and each person present renders assistance by partially sucking (!) the various pieces, which, after this preliminary process, are half boiled in water, and then wrapped up in large bundles of leaves, and buried in moist soil; no mark is made over the spot, but there appears to be no fear of forgetting it, though several weeks usually elapse before the monsoon breaks, and these decaying deposits are dug up, when the smell, as may be supposed, is most offensive to all but those who are to the manner born; by them, however, strange to relate, it is evidently highly appreciated. The next stage through which the seeds have to pass consists in freeing them in water from the decaying matter, and drying them in the sun, or over the fire, where they are left in nets (*châ·panga-*[2]) or leaves until required for use, when they are again baked. With this exception no food is dried in the sun, nor is anything salted or intentionally smoked, though this last cannot fail to be, to some extent, the result of their mode of storing food, as described in the previous paragraph.

33. Besides the various fruits already mentioned as in season during the dry months, yams and honey are very abundant; as their method of treating both fruits and yams has been already described, it now remains for me to notice the ingenious way in which they procure honey, and to name the special trees which, flowering in succession, afford ample material from whence the bees produce a more or less abundant store.

34. At the close of the monsoon one of the large jungle trees, called by them *râr-* (*Eugenia* sp.), comes into bloom, and though no honey is made from its flowers, it is said to act beneficially on the bees as a purgative, and to prepare them for the commencement of the honey season.[3] The *lē·kera-* (*Leguminosæ* sp.), blossoming a little later, is the first honey-yielding flower; the *dū·mla-*,[4] *chī·lib-* (? *Diospyros densiflora*), *ô·ro-* (*Chickrassia tabularis*), and *châ·dak-* (*Rubiaceæ*) coming next into season, enable the bees to produce large combs, but the finest are found after the *pâ-* (*Semecarpus*), *bâ·ja-* (*Sterculia* (?) *villosa*), *yē·re-* (*Sterculia* sp.), *jī·dga-*,[4] have

[1] *Vide post* "Hunting and Fishing," paragraphs 30 and 31.
[2] *Vide* Appendix B, item 22.
[3] Hence *râ·rke*, (to) clean.
[4] The botanical names of these have not as yet been ascertained.

blossomed: this is considered the height of the honey season, and is called *lad·a chàu-*.[1] It appears that on moonlight nights just at this time the bees consume a great portion of their honey, so that the "junglees" declare it to be useless to go for combs, either by day or night, until the moon has sensibly waned.

35. When about to make a raid on the hives, the Andamanese procure a certain plant, believed to be of the *Alpinia* species, called *jī·ni-*, and having stripped off the leaves, chew the stem and smear the essence thus extracted over their bodies; the mouth is also filled with the same juice, and thus armed *cap-à-pie* they proceed to disperse the bees, who, on attempting to attack them, are at once repelled by the obnoxious odour of the *jī·ni-*, emitted in a fine spray from the mouths, and also attaching to the persons of their despoilers, who sometimes make further use of the chewed stalks of the offensive plant in driving off the last remaining defenders of the hive.

36. Small combs[2] of both the white and black honey are commonly obtainable till about September—*i.e.*, so long as the *Dipterocarpus lævis*, the *Pterocarpus dalbergioides*, and a few other trees continue to blossom.[3]

37. While I had charge of the homes (and probably ever since), a large sum was annually realised by the aborigines towards their support from the sale of honey thus obtained to the free residents at Port Blair. So much indeed did they collect that we were able to store it in barrels and bottles, and generally found we had sufficient to meet all demands until the approach of the following season.

Tabu.—1. Besides the articles of food from which all abstain during the *à·kù-yáp-*,[4] we have seen that there are certain fruits, edible roots, &c., which, in supposed obedience to *Pū·luga-*'s commands, are not gathered at prescribed seasons of the year,[5] and that mourners[6] (*à·kù-ōg-*) also deny themselves by refusing to partake of their favourite viands until after the *t'ī·tó·latnga*;[7] but beyond these restrictions, which are of general application,

[1] *Vide* Appendix H.

[2] The combs produced from the blossoms of the under-mentioned trees—*i.e.*: *.tá·tib-* (*Croton argyratus*), *.bī·bi-* (*Terminalia* (?) *citrina*), and *.bal·ya-* are much less plentiful, and they are smaller; this is also found to be the case with those made from the *.chá·langa-* (*Pterocarpus dalbergioides*), *.mó·nag-* (*Messua ferrea*), *.ē·mej-* (*Terminalia bialata*), *.já-* (*Gluta longipetiolata*), and *.páp-* (*Lagerstræmia hypolenca* (?) *regina*).

[3] As they are not, in their savage state, in the habit of storing honey they are without any but the black honey during a great portion of the year.

[4] *Vide ante* "Initiatory Ceremonies," paragraphs 2 and 10.

[5] *Vide ante* "Superstitions," paragraph 12.

[6] If the mourners are *ē rem-tá ga-* they abstain from pork, and if they are *àryó·to-* they abjure turtle (*vide ante* "Death and Burial," paragraph 4).

[7] *Vide ante* "Death and Burial," paragraph 7.

every Andamanese man and woman is prohibited all through life from eating some one (or more) fish or animal: in most cases the forbidden dainty is one which in childhood was observed (or imagined) by the mother to occasion some functional derangement; when of an age to understand it the circumstance is explained, and cause and effect being clearly demonstrated, the individual in question thenceforth considers that particular meat his *yât-tūb-*,[1] and avoids it carefully. In cases where no evil consequences have resulted from partaking of any kind of food, the fortunate person is privileged to select his own *yât-tūb-*,[2] and is of course shrewd enough to decide upon some fish, such as shark or skate, which is little relished, and to abstain from which consequently entails no exercise of self-denial.

2. No one who has not attained the dignity of *gu'ma*,[3] by passing through the rites of initiation, is permitted to eat the flesh of either the dugong or porpoise; and further, it is necessary that the novice should be fed, on the first occasion of tasting either of these meats, by some friend or relative, who, having previously passed through the prescribed ordeal, is qualified thereby to admit others to the like privilege.

3. Except during the initiatory ceremonies, no prohibitions exist with regard to persons feeding themselves, or touching the food of others; after marriage the husband and wife only may eat together;[4] childless widows and widowers usually take their meals with the unmarried of their respective sexes.[5]

4. When an Andamanese woman finds that she is about to become a mother she abstains from pork, turtle, honey,[6] iguana, and paradoxurus; after a while her husband follows her example with respect to the two last-named meats, in the belief that the embryo would suffer were he to indulge in such food.[7]

[1] *tūb-* can only be applied to food, and is therefore not so generally applicable as *tabu* among the Polynesians. The equivalent of *yât-tūb-* in the *.bō'jig-yâb-* dialect is *tăm'a-tăp-*.

[2] It is believed that *Pū'luga-* would punish severely any person who might be guilty of eating his *yât-tūb-*, either by causing his skin to peel off (*wai'nyake*), or by turning his hair white and flaying him alive!

[3] *Vide ante* "Initiatory Ceremonies," paragraphs 1 and 9.

[4] The few birds that are ever shot for food (*vide post* "Hunting," &c., paragraph 27), are said to be, strictly speaking, *tabued* to all but *married* persons.

[5] *Vide ante* "Marriage," paragraphs 17 and 18.

[6] *Vide ante* "Initiatory Ceremonies," paragraph 14.

[7] Among the Abipones, if the infant dies during the first few days, the women accuse the father of heartless frivolity, as their excesses or abstinence are believed to affect the new-born infant. Again, Peschel states that in the Antilles, the father who is expecting offspring might not eat the flesh of the turtle or the manatee, for in the first case deafness and deficiency of brain, and in the second disfigurement by small round eyes, might be apprehended for the child.

5. When a man wishes to address a married woman who is younger than himself he may not venture to do so directly, but must find some third person to be the medium of his communication; it is also not *selon les règles* for a man to *touch* his younger brother's (or cousin's) wife, or his wife's sister; and women are restricted in the same way as regards their husband's elder brother (or male cousin) or his brother-in-law.

6. All titles such as *mai·a*, *mai·ola*, and *chăn·a* cease to be applied after death; and inquiries ignorantly made after one who has recently died are replied to in a subdued tone, thus: *wai edā·re* (he or she "was") or *wai ō·kolī.re* (he or she "is dead"). As little allusion as possible is ever made to deceased persons, especially for the first year or so after their death, during which period they are indicated only by reference to the tree or place where their remains are, or were, deposited; after a while the word *lach·i*, answering to "the late," is prefixed to their defunct countrymen's (and women's) names.[1]

Warfare.—1. Reference has already been made to their want of true courage or daring, and it has been stated that the Andamanese seldom, if ever, venture to make an attack unless satisfied of their superiority over their foes;[2] it will, therefore, be hardly necessary to enlarge upon their mode of carrying on hostilities, or to say that they are ignorant of the most elementary rules of warfare.

2. Should a dispute arise between members of different communities in the course of a visit or *jeg-*[3] the affair often grows in importance and becomes a tribal question, which may not be settled without more or less serious consequences; those wounded on such occasions generally fare badly unless speedily removed, as they stand great risk of being shot dead or receiving the *coup de grâce* in some other form; they are not, however, in the habit of mutilating the bodies of their victims, save in exceptional cases, where there has been very grave aggravation.

3. The assailants generally approach stealthily upon their enemies, and, though availing themselves of every advantage afforded by the density of the jungle, do not take further precautions or devise stratagems whereby to conceal their trail as they proceed on their way. They wear no breastplate,[4] nor do

[1] **Ex.**: "múnshí" *.bī·ela* (*vide* Plate VIII, fig. 2), whose corpse was *placed* on a machán beside a tree called *yel-*, was spoken of as *yel lā·kà-tàng len teg·ī yà·te-* (he who is by the *yel-* tree); had he been *buried* he would have been referred to as *yel lā·kà-tàng len bū guk yà·te-*.

[2] *Vide ante* "Psychology and Morals," paragraph 2.

[3] *Vide post* "Games and Amusements," paragraphs 22–37.

[4] The *.jăr·awa-* have been found to wear a wide belt of bark as a protection in hostile encounters.

they use shields,[1] and the idea of throwing up earth-banks, or constructing any species of defence for the better protection of their numerous encampments, does not seem to have occurred to them.[2]

4. Night attacks have been made now and again, but the favourite time is the break of day, when the unsuspecting enemy are sound asleep; or at a late hour when they are likely to be engaged in the preparation or consumption of their evening meal.

5. Women and children incur a like risk with men on these occasions, but it would not be considered a matter for boasting should any of them fall victims in the strife, while a child which might be captured uninjured would meet with kindly treatment, in the hope of his (or her) being induced ultimately to become a member of the captor's tribe.

6. The property of the vanquished is of course treated with little ceremony: everything portable is appropriated, and all else is injured or destroyed.

7. No confirmatory evidence is required to prove the truth of a statement declaring a man to have slain one or more foes, but if, in hunting, he should kill at a distance from home an animal too heavy for him to carry back unassisted, he would cut off the tail or some other portion which would afford ocular demonstration of its size, and serve as an inducement to his friends to assist him in bringing in the carcass.

Hunting and Fishing.—1. As I stated in an earlier section, the Andamanese are, for the most part, keen huntsmen, and their eagerness in the chase is one of the chief hindrances in the way of their becoming agriculturists, for a great portion of their time being thus spent, the sites of their temporary (as of their permanent) encampments are to a great extent determined by the advantages which they offer for the pursuit of their favourite pastime.

2. There do not appear to be any omens or superstitions in this connection, nor are there special ceremonies observed previous to the start or on the return of the party, save the somewhat peculiar custom, to which I have elsewhere alluded, of maintaining a glum silence for some time at the close of the day's sport.[3]

[1] Their sounding or stamping boards (*pū·kuta-yem·nga-*), used in their dances, have, in consequence of their resemblance to shields, been mistaken by more than one visitor as such.

[2] For the weapons used in warfare *ride post* "Hunting," paragraph 5.

[3] *Vide* "Journ. Anthrop. Inst.," vol. xi, p. 287. It may here be added that the only explanation which they offer to account for this practice is that they intend thereby to convey to their friends an exaggerated notion of the fatigues they have endured for the general weal.

3. Females take no part in these expeditions, and boys seldom accompany their elders until after their twelfth year.

4. If more than a few hours' absence is anticipated, besides a supply of provisions, a smouldering log is entrusted to some one member of the party, whose duty it is to prevent its extinction,[1] and to kindle it into a blaze whenever a fire is required. No immediate honours are conferred upon the successful sportsman, but stories of feats of extraordinary prowess are related, with more or less embellishment, from time to time for the benefit of the young and the edification of strangers. No record is kept of the game killed, but, as those distant tribes who are not yet possessed of dogs (or only of a very few) still retain the primitive custom of suspending the skulls of their victims from the eaves or on poles round their huts, a fair idea of their success can be formed by themselves and others from the number thus displayed.

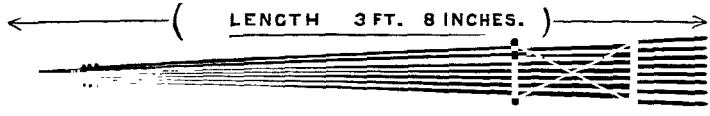
5. Whether in hunting game or in attacking an enemy, the bow (*kâ·rama-*) and arrow are employed, and these are almost[2] identical in form among all the eight tribes of Great Andaman. For spearing turtles and large fish a harpoon (*kowai·a l'ó·ko dū·tnga-*[3]) is used: as a description of this serviceable weapon and of the mode in which it is employed, has been given in Appendix B, it is unnecessary to repeat the information in this place.[4] The only other weapon in use is the pig-spear

[1] *Vide ante* "Fire," paragraph 6.

[2] The comparatively slight difference existing between the form of the five *.bō·jig* and three *yē·rewa-* bows, and the wide distinction observable between both of these and the *.jär·awa-* (Little Andaman) bow will be best seen by referring to the "Journ. Anthrop. Inst.," vol. vii, Plate XIV, figs. **1**, **4**, and **3** (*vide* also Appendix B, item 1).

[3] *Vide* Appendix B, item 10.

[4] In reference to the subject of *fish-spears* an interesting discovery was made on the occasion of the last visit (October, 1882) paid by Mr. H. Godwin-Austen, now in charge of the Andaman Homes, to North Andaman. Some six or more specimens of what, I believe, is quite a unique wooden fish-spear were seen in one or two of the *.yē·rewa-* canoes. As one was fortunately brought away a sketch is here given of it. It reminds one somewhat of the fish-spears used by the Nicobarese (*vide* vol. vii, Plate XV), though very inferior, and is doubtless, like them, intended for spearing small fish.



The eight long wooden spikes are not tied together in a circular form as in the case of the Nicobar *hokpák* but in a row, and, as will be inferred from the drawing, they are held in that position by means of two short pieces of wood lashed to them at right angles: from the appearance of the lower end of this weapon it seems probable that it is fixed—like the *kowai·a l'ó·ko dū·tnga*—into a bamboo shaft when about to be hurled.

(*ērdūtnga-*[1]), which is of comparatively recent introduction, its adoption being due to the abundance of iron obtainable for some time past by the *.bōjig-ngījī-* and other tribes near our settlement at Port Blair.

6. To an untrained eye no difference is noticeable in the appearance of the weapons of similar style and construction, but the aborigines are quick in detecting individual peculiarities in the manner of knotting the strings of bows, arrows, &c.[2]

7. As has been remarked by General Pitt Rivers,[3] the bows of the Great Andaman tribes, especially those of the southern half, known to the islanders as the *.bōjig kâ·rama-*, resemble those in use in Mallicollo, one of the New Hebrides, and in New Ireland, being of a "peculiar flattened S-shaped form, curved towards the firer in the upper part as held in the hand, and to a slight extent the reverse way at the bottom."[4]

8. Except in the case of boys living on or near the coast, whose toy bows are often made of the *Rhizophora conjugata*, the wood of the mangrove is rarely, if ever, used, and the bamboo *never*,[5] for they find that certain other trees,[6] are more suitable for their purpose.

9. No whalebone or sinews are used for the purpose of imparting additional elasticity to the bow, and no evidence is forthcoming to show that they ever applied poison to their arrow or spear-heads—in fact, the only poison known to them appears to be the *Nux Vomica*, and this they merely avoid as a noxious or useless plant.

10. It is true that certain passages in Dr. Mouat's book[7] convey a contrary impression, for, from the observations made during his short trip round the islands, he seems to have entertained no doubt that these savages habitually applied poison to their arrow-heads;[8] but, in the sense in which I understand his

[1] *Vide* Appendix B, item 9.

[2] For an example of this *vide ante* "Communications," &c., paragraph 6 (footnote).

[3] *Vide* "Journ. Anthrop. Inst.," vol. vii, p. 440.

[4] In the ethnographical department of the museum at Maidstone, I have lately observed a bow from Banks Island (New Hebrides), which bears a striking resemblance to the commonest form of the peculiar *.bōjig* bow, for sketch of which see Plates VIII and IX.

[5] "Their weapons are bows and lances of iron-wood. The former are bamboo. . . ." (Grant vol. ii., p. 378.) [Their spears, at least those of Great Andaman, have never yet been seen by us made of iron-wood.—**E. H. M.**]

[6] *Vide* Appendix B, item 1.

[7] Pp. 324 and 330.

[8] It may be of interest to mention in this place a curious alleged fact which has been brought to my notice by the petty officers and others connected with the homes, *i.e.*, that the wounds which are inflicted now-a-days by the iron-headed arrows of the Andamanese are not so painful or so liable to fester as they were formerly, and this they attribute to the fact that, while it has always been the practice of these savages when sharpening their blades to

remarks, I am persuaded that he has credited them with more intelligence on this point than they possess.

11. The origin of the belief appears to be traceable to the fact that they generally in former times tipped their arrow-heads with fish-bones,[1] more particularly the serrated tail-bone of the sting-ray, which, as is well known, is capable of inflicting a very serious wound in consequence of the liability of the fine brittle spikes to break off and remain in the flesh after the extraction of the arrow, thereby causing, in the majority of cases, bad ulcers, which, in the absence of skilful treatment, frequently resulted in the sufferer's death.[2]

12. The maladroitness of strangers who have failed even to bend the Andamanese bows[3] has apparently been due to their having held the wrong end uppermost, for, so far from there being any difficulty in using even their strongest bows, it has been proved that after a little practice Europeans are able to compete almost on even terms with all but the few "crack" shots among the aborigines, provided at least that the object aimed at be stationary; but they less readily acquire the skill which the Andamanese display in rapid shooting, and in discharging the arrow with the full force of which it is capable.

13. The large bows (from $5\frac{1}{2}$ to 7 feet long) are constructed chiefly for ornament and presentation to friends, and are seldom used except for shooting fish and pigs along the shore. The smaller kinds are preferred in jungle expeditions, and on most other occasions, as they are more convenient and also more easily replaced in case of accident, less time and trouble being required for their manufacture.

14. One of the chief drawbacks to the bows used by these tribes is that they cannot be fired in silence,[4] in consequence

moisten them with saliva, the inmates of the homes—who are those chiefly employed as jungle police—now eat *salt* with their food, which was never the case fifteen or twenty years ago. Whether, assuming the story to be true, the effect can be accounted for by the circumstance stated, or, as seems more probable, is due to the improvement in the physical condition of the convicts since the early days of the settlement, is a question for medical authorities to decide.

[1] Writing nearly a century ago, Colebrooke mentioned that "their arrows are headed with fish-bones, or the tusks of wild hogs; sometimes merely with a sharp bit of wood, hardened in the fire, but these are sufficiently destructive."

[2] *Vide* footnote to Appendix B. item 53.

[3] *Vide* Mouat, p. 321. Had Dr. Mouat's remarks applied to the Little Andaman or other *jâr'awa-* bows, which are of totally different construction (*vide* vol. vii, Plate XIV), they would have been more readily understood, for even the aborigines of Great Andaman have experienced much difficulty in shooting with the few specimens of this weapon which have fallen into their hands; doubtless, therefore, much knack and practice, as well as strength, are needed in using them.

[4] From this defect the *jâr'awa-* bow appears to be exempt, which is easily

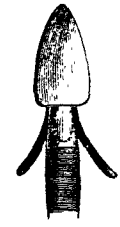
of the string striking the lower or convex portion of the weapon.[1]

15. There are five varieties of arrows, viz: the *râ·tà-*, the *tī·rlē·d-*, the *tô·lbō·d-*, the *ē·la-*, and the *ē·la-lâ·kà-lū·pa-*, none of which are provided with more then one point or blade.

16. The first of these (*râ·tà-*) is used in their games, and is the first form which their fish arrows take; it consists of a shaft made of *Bambusa nana*, to the end of which is fastened a piece of hard wood, which is rendered harder and less liable to split by being gradually heated over a fire: this foreshaft also gives the necessary weight to ensure accuracy of flight, and to increase the force of penetration. The *tī·rlē·d-* is merely a *râ·tà-* with its point sharpened for use, in shooting the smaller varieties of fish. The *tô·lbō·d-* is a *râ·tà-* with an iron point, and generally a barb as well, secured to the head: it is chiefly used in fishing. The above three arrows usually measure 4 feet 6 inches to 4 feet 9 inches in length, while the remaining two, of which a sufficient description will be found in Appendix B, do not generally exceed 3 feet 6 inches.

17. The Andamanese take especial pride in keeping the bladed heads of their arrows and spears as bright as possible: the shafts are straightened by dint of pressure with teeth and fingers, but no feathers or other devices are employed to increase the velocity of flight. As illustrations of their arrows and other weapons appeared in vols. vii and xi of the Institute's Journal, and as, in Appendix B, I have described their manufacture, it is unnecessary for me here to repeat the information which can be obtained by reference.

18. There are one or two points connected with the iron-bladed arrows to which, I believe, attention has never yet been drawn. I allude to the position of the barbs and the object of the seam. In the *ē la-* the blade is so fixed as to be in a line with the seam of the fastening at the end of the shaft, and, whether provided with one or more barbs, these are always placed in a line with the blade, the seam above referred to being used as a "sight." In the *ē·la-l'â·kà- lū·pa-*, which has no seam, the barb which is most in a line with the blade is used as a "sight," and accordingly placed uppermost. In forming these blades they shape them so as to allow of a small portion being inserted in the foreshaft (see fig.), and it is then fixed as firmly



accounted for by the resemblance it presents to the ordinary European pattern; this, however, appears to be the sole advantage which it possesses over the two varieties used in Great Andaman.

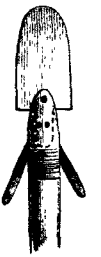
[1] *Vide* "Superstitions," paragraph 5, and "Religious Beliefs," paragraph 19.

as possible by means of string,[1] which is protected with a coating of *kâ·ngatâ-būj-*.[2]

19. It is a singular fact that the mode in which the tribes of Great Andaman discharge their arrows differs from that in vogue among the *jär·awa-*. While the latter are said to adopt the plan usual among ourselves of holding the nock of the arrow *inside* the string by means of the middle joints of the fore and middle fingers and drawing the string with the same joints, it is the practice among the former to place the arrow in position between the thumb and top joint of the forefinger, and to draw the string to the mouth with the middle and third fingers. The feet are only used in stringing and unstringing the bows, and never for bending the bow in shooting, as was at one time supposed to be the practice among the *jär·awa-*, whose long and clumsy *kâ·rama-* have puzzled the *.bō·jig-ngī·ji-*, as well as ourselves, to use with any effect.

20. In Great Andaman the waistbelt[3] *(bōd-)* or other cincture often does duty as a quiver while fishing and hunting, and the arrows are placed behind, with the heads upwards, both in order to avoid causing injury or inconvenience by hindering freedom of action, and to be readily seized and brought into position for firing.

21. Their pointed arrows carry with considerable effect to a distance of 40 or 50 yards. A *tó·lbō·d-* has been found to pierce a deal plank 1½ inch thick at the former range, and probably up to 100 yards one of these arrows is capable of inflicting a serious wound, but an accurate aim is scarcely possible beyond less than half that distance. In the case of the two varieties of pig-arrow much less can be attempted, as these ill-balanced, though formidable, missiles will not carry with certainty further than 12 to 15 yards, and if fired at wider ranges usually fly very wildly.



[1] A better method has, however, been adopted by the *jär·awa-*, viz., that of making three holes in the blade, and passing through them the string which secures it to the foreshaft, thus rendering disconnection of the parts a matter of some difficulty. The precaution thus taken against loss of the blade is evidently due to the comparative scarcity of iron in their territory, which circumstance is the natural consequence of the attitude of hostility, or of avoidance of intercourse, which has been persistently maintained towards the eight Great Andaman tribes, as well as towards ourselves, by one and all of the various scattered *jär·awa-* communities. [With reference both to this sketch and that of the *.bō·jig ē·la-* head, in paragraph 18, it should be added that these are mere sectional drawings of these objects. In the finished arrow the string-fastening is carried up to the base of the blade, and the whole of this string work is finally coated with *kâ·ngatâ-būj-*.]

[2] *Vide* Appendix B, item 62.

[3] *Vide ante* "Attire," paragraph 3.

22. It is not found that they have any inclination to adopt civilised weapons or tools in lieu of their own, but they have not been slow to avail themselves of the facilities afforded them in recent years for substituting iron for shell, bone, and (?) stone,[1] in the manufacture of their various implements.

23. The blow-pipe, which is used so generally by the Negritos (*Semangs*) of the Malayan peninsula, finds no place among the weapons of these savages. Its absence may be readily accounted for, firstly by their ignorance of poison, or at least of any method of utilising such knowledge as any of them may possess, and secondly by the fact that they are so well able to supply all their wants with the implements already referred to in the foregoing, that their inventive faculty has not been sharpened by the pangs of hunger to devise other or more effective means of destruction. It may be added that slings, throwing sticks, clubs, bird-bolts, or blunt-headed arrows for stunning animals or birds, are likewise not in use among them.

24. Although the pig is the object of their chase in their hunting expeditions, they invariably take a few of their pointed arrows, preferably the *tô·lbō·d-*, on the chance of coming across some smaller game, such as an iguana or paradoxurus.[2] To facilitate rapid shooting a man will often hold a number of arrows in the hand which grasps the bow.

25. From constant practice they are, as might be supposed, very skilful at shooting fish under water. Dr. Brander has correctly observed that "they seem intuitively to have calculated with great accuracy the difference of direction to be allowed for oblique aqueous refraction"; but these shots are almost always, if not invariably, made at a distance of a few yards only, and never so far as "30 yards,"[3] or "with three-pronged barbed arrows," such missiles being neither made nor used, at least by any of the Great Andaman tribes.[4]

26. Boys soon learn to practice at near objects with the small bows and arrows to which allusion has already been made, and many of them often contribute materially to the family larder by their early prowess. It is a common sight to see youths and children (and even their elders), when travelling, wantonly shoot at small passing objects, both on land and in the water, by way

[1] *Vide* "Journ. Anthrop. Inst.," vol. xi, p. 271.

[2] While these two animals are killed at all seasons of the year, the pig-hunts take place chiefly during the rains, when this animal is in excellent condition, and their diet, owing to the comparative scarcity of fruit and honey, less varied; even if with young the pig is not spared.

[3] The well-nigh impossibility of ever seeing from the shore or from a canoe a fish swimming at such a distance would sufficiently account for this.

[4] It is possible that Dr. Brander saw the *single* specimen of an arrow answering to this description which was obtained in 1880 from North Sentinel Island.

of practice or to display their skill. No reproach is offered by the bystanders to one who wounds an animal without killing it.

27. Pigeons, waterfowl, ducks, and flying-foxes are sometimes shot, but never while on the wing, or when perched in such a position as to risk the recovery of the arrow.

28. In addition to the bows and arrows, their hunting gear consists generally of a hone (*tá·lag-*[1]), a *Cyrena* shell (*ū·ta-*[2]), an adze (*wō·lo-*[3]), and often now-a-days a spear (*ēr-dū·tnga-*[4]); sometimes a knife (*chó-* or *kó·no-*[5]) is also taken, but as the blade of the pig-arrow or spear can be made to serve this purpose, it is not regarded as an essential part of their equipment.

29. They employ no stratagems for deceiving or decoying game, nor do they prepare snares or pitfalls for it.

30. When unaccompanied by dogs the hunters usually follow the pig's tracks, evincing while doing so their accurate knowledge of its habits. Immediately the object of their search is sighted they endeavour to surround it as noiselessly as possible—taking no precautions, however, against approaching it from windward—and, finally rushing forward and yelling vociferously, discharge their arrows. This practice of driving is generally adopted near the coast and in the vicinity of a belt of *Rhizophora conjugata* where the animals, becoming entangled among the roots or sinking into the soft soil, are easily captured or despatched. The ownership of the carcass is decided in favour of the person who inflicted the first serious wound, and he is exempt, if he please, from carrying home his prize or from any further trouble in connection with it; the cleaning, cooking, and quartering of the animal is undertaken by any one who chooses to volunteer his services, during which interval the day's adventures are narrated: those who have remained at home share equally with the hunters[6] in the spoil, for they are supposed to have been engaged in contributing to the general wants of the community.

31. There are, of course, some in every encampment who, from laziness or want of skill, are of very little use in this respect, but, since any ill-natured remarks at their expense would inevitably result in a more or less serious quarrel, they are rarely twitted with the circumstance, but are permitted to partake of the feast.

[1] *Vide* Appendix B, item 52; also *post* "Stone Implements," paragraph 2.
[2] *Vide* Appendix B, item 51; also *post* "Natural Forms," &c., paragraph 1.
[3] *Vide* Appendix B, item 15; also *post* "Natural Forms," &c., paragraph 2.
[4] *Vide* Appendix B, item 9; also *ante* paragraph 5.
[5] *Vide* Appendix B, item 77; also *post* "Natural Forms," &c., paragraph 4.
[6] On the return of the hunting party the chief is apprised of the nature and amount of the "bags"; whatever is brought in by the married men is taken to their private huts and distributed as they please, but the spoils of the bachelors are at the disposal of the chief, and are distributed according to his orders.

32. At the conclusion of the repast, the sportsman who has most distinguished himself during a more than ordinarily successful chase is expected to entertain the company, while they dance, with an impromptu song, in the chorus of which the women join.

33. Much of the foregoing applies to the *àryô·to-*, as well as to the *ē·remtâ·ya-*, except of course that, with the former, hunting expeditions are less frequent than turtling and fishing operations.

34. Turtle-hunts take place during the flood-tide, both by day and night; the favourite hour of all is that between sunset and the rising of the waning moon,[1] for then, with the aid of the phosphorescent light, called *pēwō·i-*, caused by the movements of the canoe, they are often able to discover and harpoon the turtle before it is at all aware of their approach; on these occasions they select, if possible, a rocky portion of the coast, where there is little or no foreshore, giving it as their reason that turtles frequent such places on dark nights in order to lay their eggs, and are then easily captured. At other times, the localities preferred for these expeditions are those styled *yàw·la-*, where there is a fine stretch of sand with an extensive foreshore, the reason, of course, being that every dark object is so easily seen in shallow water against a clear sandy bottom.

35. The green or edible turtle (*Chelonia virgata*), called *yâ·dī-*, is hunted both by day and night, but the hawkbill (*Caretta imbricata*), called *tàu-*, only by day, as they declare the latter is never seen on dark nights.[2] The flesh of the former is of course preferred, and no use being made of the tortoiseshell obtainable from the latter, it is treated after the feast with as little consideration as the valueless shell of the *yâ·dī-*.[3]

36. The practice of capturing turtles by "turning" them when on shore is unknown among these savages; whether this be due to their regarding it as mean and unsportsmanlike, as the disdainful looks and remarks of those I questioned on the subject would lead one to suppose, or whether it be because they so thoroughly enjoy their own methods of procedure, which so fully answer their requirements, I am not prepared to determine, but it is, nevertheless, certain that although well aware, from their knowledge of the animal's habits, that it could be easily surprised

[1] This period has accordingly received a specific name, viz., *â·kà-tig-pâ·la-*.

[2] An average size *yâ·dī-* weighs about 80 to 100 lbs., and a *tàu-* considerably less. The heaviest specimen of the former which ever came under my notice weighed about 400 lbs. The ordinary price of a full-grown turtle at Port Blair is five rupees.

[3] These remarks do not of course apply to those living at the homes, as they have long since learnt to benefit considerably by disposing of their tortoiseshell to visitors and residents at Port Blair.

and captured when frequenting the shore, they never take advantage of the opportunities thus presented.

37. Even on the darkest nights many turtles are speared at the moment when they rise to the surface in order to breathe. The sound which they then make, though slight, is sufficient at once to attract the attention of the keen-eared *àryó·to-*[1] standing on the projecting prow, and to enable him to direct his harpoon with unerring aim; he usually jumps into the water after his victim, lest the barbed head should, in the act of dragging the line, slip out of the wound and the animal escape. When the turtle is in such deep water as to render spearing it from the canoe an impossibility, the harpooner leaps into the water feet foremost, with the spear in his hand, and frequently succeeds at once in transfixing the animal. After spearing a sting-ray, they drag it by means of the harpoon to the boat, whereupon one of the party seizes it by its tail, and holding it firmly between his *teeth*, knocks off, with a piece of wood or other instrument, the formidable spike or spikes which project from the root of the tail; after thus disarming their victim, they proceed to drag it into the canoe or to the shore.[2]

38. From the accounts of some writers respecting the prowess of the Andaman Islanders in the water, it might be inferred that they rival or even excel the "finny denizens of the deep" in their own element. This is, of course, incorrect, and due to misapprehension; the secret of their "invariably returning to the surface with some scaly prize" finds its explanation in the fact that they never think of diving[3] after a fish that has not been first transfixed (according to its size) by an arrow or harpoon.[4]

39. The art of fishing with a hook and line was unknown to, and has not found favour among them, as they are far more successful than ourselves in catching fish by their own methods,[5] which are as follow:—at low water the women and children with hand-nets capture such fish and shell-fish[6] as are left by the

[1] *Vide ante* "Tribal Communities," paragraph 5.

[2] Two or three fatal accidents have, to my knowledge, occurred in recent years on dark nights to inexperienced turtle-hunters at one or other of the homes, in consequence of their having plunged on to the back of one of these fish after harpooning it, mistaking their victim in the darkness for a turtle.

[3] "Should the fish be large some of those in the boat dive down, attacking the victim with knives and spears" (Dav).

[4] They are, moreover, not in the habit of "diving for shell-fish,"—except it be for a *Tridacna crocea*, which they occasionally discover in deep water—for quantities are always found in shallow water at low tide.

[5] "The present writer has seen a party of Andamanese shoot and secure nearly one hundred fish during one low tide on a coral reef, and that with no very extraordinary exertion" (*vide* "Bombay Gazette," 2nd August, 1881).

[6] The favourite time for collecting shell-fish is the low tide at daybreak occurring about the third and fourth days after new and full moon, and known to them by the name of *tó·ya-*.

receding waves in the rocky hollows on the foreshore, and at the turn of the tide the men are usually to be seen standing up to their waists in water, or poling along the shore in their canoes, and shooting with their bows and arrows at the fish as they dart past.[1]

40. The seeds of a plant called *tô·rog-*[2] are sometimes crushed and thrown into creeks where fish and prawns are likely to be, as it has the effect of driving the fish from their hiding place, and leads to their easy capture in hand-nets held in position for the purpose.

41. In former times, and even now in the more distant communities, large nets of about 80 feet in length and 15 feet in depth, with meshes of several inches in diameter, were spread at the mouth of creeks for catching turtles and big fish, but since iron has been so easily obtained and canoes and harpoons have become more numerous, the *àryô·to-* usually carry on their trade by these means in preference to the older method, which entailed much labour in the manufacture. The following is the mode employed when nets are used:—one side is sunk by means of stones, and the other is kept up by floating sticks called *t'â·lag-*, of the *al·aba-*[3] tree (*Melochia velutina*), to each of which a cane-leaf is attached; the ends are then drawn across such parts or creeks into which fish may easily be driven by beating the water with the bamboo shafts of their turtle spears. When any turtle or fish is driven into the net, the exact spot is at once indicated by the disturbance of one of the logs, with its tuft of leaves, whereupon they generally find little difficulty in despatching their captive.

Navigation.—1. It is a subject of surprise to all who, during the past fifteen or twenty years, have come in contact with the Andamanese, and have observed the style and capabilities of their canoes, to read the high encomiums that have been bestowed on the skill with which they are constructed, and to find that they are credited with such extraordinary speed as to distance easily a cutter, as well as a gig, manned respectively by picked crews of blue-jackets and Chinamen,[4] the former of whom "said, in their own usual exaggerated style of remark, they nearly killed

[1] The results obtained by the men are said to be inferior to those obtained by the women and children, but this is probably due to the large quantity of molluscs and crustaceans usually collected in the hand-nets.

[2] A species of *Lagerstræmia*. This is similar to the custom among the Gaboon tribes described by Dr. Brown, who mentions that "at the Gaboon it is the leaves of a pretty leguminous plant, with yellow flowers . . . which is used. So rapid is the poison that if a handful of the bruised leaves are thrown into a pool the fish will almost immediately die and come to the surface."

[3] *Vide ante* "Superstitions," paragraph 7, and *post* "String," paragraph 1. *Vide* Mouat, pp. 315–321.

themselves in their effort to maintain the credit of their ship, their cutter, and their flag."

2. Nowhere on Great Andaman, at all events at the present day, have any aborigines been found capable of propelling a canoe at more than half the speed of one of the ordinary gigs in common use at Port Blair; moreover, in respect to the extreme buoyancy of their skiffs, but little κίδος seems due to the Andamanese boat-builder, for having had, until quite lately, no other implement than a rude, though tolerably effective, adze with which to form them, he was compelled to select for his purpose the lightest and softest woods that were procurable. At the same time there is no doubt that if they possessed the requisite knowledge, and the means were available for constructing stronger and more seaworthy craft, they would lose no time in employing them; for they fully recognise the inferiority of their boats, both in regard to workmanship and speed, to those used by Europeans, or by their neighbours the Nicobarese. In one respect only do they consider that their own canoes surpass all others, and that is in the projecting prow, which enables them to spear fish and turtle with more ease than is possible in boats of a different construction.[1]

3. The current tradition[2] of the escape of four persons in a boat when the world was submerged, may be fairly considered as affording some evidence that this mode of transit is not regarded as of recent introduction.

4. Many conflicting opinions have been expressed by different writers under this head, and the form of canoe originally manufactured by the Andamanese has been much discussed. They themselves declare that the outrigger (*chă'rigma-*) was adopted immediately after the Deluge, in consequence of the deterioration of a species of *Pandanus* tree, called *mâng-*,[3] of which, prior to that catastrophe, they had been able to make large plain "dug-outs." Until recently[4] the outrigger continued

[1] In the South Kensington Museum there are models of canoes made by the natives of the Andamans and Nicobars, which will give to any interested in the subject a fair idea of their relative merits, as well as of the skill of their respective makers; and it may be added that in the entrance court of the India Museum (South Kensington) a specimen of a fair-sized Andamanese canoe is now to be seen minus its outrigger.

[2] *Vide* "Mythology," paragraph 16.

[3] *Vide* "List of Trees," Appendix L.

[4] The following information was obtained from an Andamanese chief:—"We have used outrigger canoes from time immemorial. It is in recent times that we have commenced making the large plain canoes, and this we were induced to do from the facility with which we have been able to obtain iron. Owing to their large size they do not require outriggers. When the sea is rough we prefer these large dug-outs, and the small outrigger canoes when it is calm; the latter are more easily made, but do not last many months when in constant use, whereas the former will serve for a year or more."

in use, and is still to be seen in North and Middle Andaman, but the possibility of obtaining unlimited supplies of iron has enabled those living near Port Blair to return once more to the traditional "dug-out" of antediluvian times; it also seems that this description of canoe is gaining in favour among the tribes of Middle Andaman and the Archipelago, though it had not, in 1879, when I visited that part, penetrated as far as North Andaman.

5. As is correctly stated by Dr. Mouat (p. 316) the Andamanese never venture far from the coast: this was conclusively proved by their ignorance of *Barren Island*[1] and *Narcondam*, until taken past them in the settlement steamer.[2]

6. The safety of either the outrigger or "dug-out," and their adaptability for use as lifeboats,[3] is more than doubtful, while the confidence which is reposed in them by their owners may be judged from the fact that they never venture far from land, and when crossing from one island to another do their utmost to lessen the passage through deep water as much as possible by keeping close in shore and coasting along until the narrowest part of the channel is reached.

7. A glance suffices to show the most casual observer that it would be impossible[4] to preserve the equilibrium of these frail barques without their outriggers, which, being attached to three or four pieces of wood passing through the interior of the canoe are, moreover, not easily removable.

8. The advantages possessed by the large plain "dug-outs" over the outriggers are twofold: for in the first place they can breast a fairly rough sea, while the others are fit only for use in perfectly calm weather; and in the second place, while the former can accommodate a party of from fifteen to forty persons,

[1] Visible within a short distance of the east coast of the Archipelago.

[2] Since the date of the raids committed by the *jär·awa-* (of Little Andaman) upon the Car Nicobarese, of which mention is made (as a tradition) by Mr. G. Hamilton (*vide* "Asiatic Researches," vol. ii, p. 337, published 1801), no distant voyages appear to have been attempted by these savages in canoes.

[3] "They would make most excellent lifeboats, such, we believe, as have never yet been constructed by any of our most experienced boat-builders" (*vide* Mouat, p. 317). The returns of life-boat institutions would, however, be somewhat prejudicially affected by the adoption of this suggestion; for, as the same writer goes on to say (p. 318), "the greatest adepts in rowing, steering, and guiding our ordinary boats, find themselves completely at a loss when they get into a Mincopie canoe. When any of our men recklessly got into them, and attempted to paddle out a little way to sea, they invariably succeeded in capsizing them, receiving a thorough drenching in the water as a suitable punishment for their rash and imperfect seamanship."

[4] It is therefore difficult to understand the following allusion made by Dr. Mouat (p. 317):—"When the Mincopie go to sea in them they attach to some part of the boat an outrigger, in some respects resembling that which the Cingalese fishermen attach to their boats."

the latter are seldom large enough to carry more than four or five, and usually not more than two adults.

9. The chief excellence of both these descriptions of canoes is that they cannot sink, owing to the nature of the wood of which they are constructed, and when, as not unfrequently happens, they capsize or are filled by a heavy wave, their occupants skilfully contrive, with but little delay, to right them and bale out the water, while clinging to the sides.

10. Most of the canoe-making is carried on during the months of August, September, and October, and the average time and labour expended is that of about eight men for a fortnight in hollowing out a canoe or "dug-out," and forming the much esteemed prow; for this purpose a trunk is selected varying in length from 10 to 30 feet, and when the bark has been removed the exterior of the proposed canoe, with its important prow, is shaped with an adze (*wō·lo-*[1]), afterwards the interior is scooped out with the same implement; fire is not now-a-days employed to expedite this latter process, whatever may have been the custom in past generations,[2] though I may add that there do not appear to be any traditions in support of such a theory.

11. At the bottom and water-level, canoes, though sometimes more, are never less than $1\frac{1}{2}$ to 3 inches thick, and indeed, if this were not the case, it would be impossible for them to stand, even for a few days, the rough treatment to which they are subjected, or to bear the spoils of a successful turtling expedition.

12. Though the result of the builders' labour might, by making every allowance for the rudeness of their tool, be termed "creditable," it seems passing strange that any writer should especially commend the "finish," "perfection," and "elegance" of the work, and maintain that it surpasses that which could be wrought by Chinese carpenters, whose skill in all handicrafts is so well established.

13. The Andamanese anchor consists merely of a heavy stone, or large lump of coral, fastened securely to a stout line of a few fathoms' length. Rafts are quite unknown to them at the present day, and no evidence of their use in bygone years has been discovered.[3]

14. The canoes are propelled along the shore[4] by means of the haft of the harpoon spear (*kowai·a lō·ko dū·tnga-*[5]), or, in deep

[1] *Vide* Appendix B, item 15.

[2] *Vide* Colebrooke and "Journ. Anthrop. Inst.," vol. xi, p. 290, Appendix I.

[3] "They use also rafts made of bamboos to transport themselves across their harbours, or from one island to another" (Colebrooke).

[4] Except when the men are engaged in turtling, the women frequently assist in propelling the canoe.

[5] *Vide* Appendix B, No. 10.

water, by paddles (*wäl·igma-*[1]), the size of which is not determined by custom, but varies according to the whim of the maker and the size of the piece of wood (generally of the *Myristica longifolia*) at his disposal;[2] all, whether small or large, are used indiscriminately, either with the outriggers or simple "dug-outs"; paddles are never made by women, to whom, however, their ornamentation with *kòi·ob-* and *ká·ngatâ-būj-* is afterwards entrusted.[3]

Ornamentation.—1. While the Andamanese habitually ornament their various utensils, weapons, &c., they never attempt to show their talent or originality by representing natural objects, or by devising a new pattern, but slavishly adhere to those which custom has prescribed for each article.[4]

2. These designs are executed by means of a *Cyrena* shell, or are painted in *kòi·ob-*, *tâ·la-ōg-*, or *ká·ngatâ-būj-*; occasionally they content themselves with smearing the entire surface of the object with either of the two first-named pigments, but more often a background is thus formed for the better display of further embellishments.

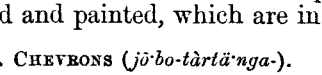
3. These three substances supply their only colours, *i.e.*: brick red (*kòi·ob-*), white (*tâ·la-ōg-*), and brown (*ká·ngatâ-būj-*).

4. Small land and sea shells[5] (especially the *Dentalium octogonum*), certain seeds and bones are much prized, not only for making personal ornaments, but also for the adornment of weapons and implements, as well as the human skulls and jawbones which they often wear and carry about with them.

5. It may be added that the details of ornamentation are in most cases subordinate to the general form and outline of the object in question

6. The following is believed to be a complete list of the designs,[6] both carved and painted, which are in use:—

I. CHEVRONS (*jō·bo-tàrtä·nga-*).



Painted with *kòi·ob-* or *tâ·la-ōg-* on bows, buckets, canoes, and paddles.

[1] *Vide* Appendix B, No. 11*a*.

[2] Dr. Mouat states (p. 319) that they are made of three sizes, and (p. 320) that "the work of making them is entrusted solely to the women and children," but I have failed in discovering any foundation for these assertions.

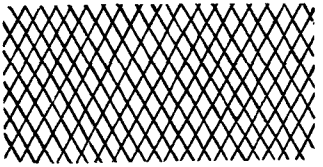
[3] The canoes too are often similarly ornamented, especially when new.

[4] Of enamelling they possess no knowledge.

[5] Beads, when offered by us, are gladly accepted for use in lieu of small shells.

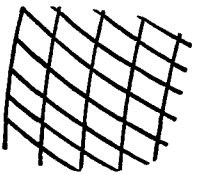
[6] When it is stated that all these designs are executed by means of pointed sticks, shells, or even the finger-tips, it is scarcely necessary to add that they fall far short of the neatness and mathematical precision characterising most of these illustrations, which therefore can only be taken as representing the particular pattern *attempted*.

II. Cross Lines (*ig-yī·tinga-*).



Cut by means of a *Cyrena* shell on the *rō·gun-*[1] and *ij·i-gō·nga-*,[2] and painted with *tâ·la-ōg-*, between parallel lines, on the sounding board (*pŭ·kuta-yem·nga*[3]).

III. Cross Lines (*ig-bar·nga-*).



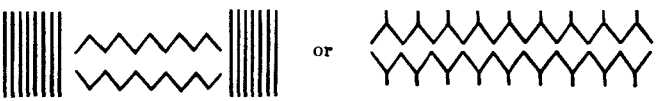
Painted on the outer surface of baskets, the vertical lines with *kòi·ob-*, and the oblique ones with *tâ·la-ōg-*.

IV. Parallel Lines (*ig-ō·inga-*).



Painted with *kòi·ob-* or *tâ·la-ōg-* across handle of paddle.

V. Parallel Lines and Zigzag (*jō·bo-tàrtà·nga* or *tó·nanga-*).



Painted with *tâ·la-ōg-* on *rō·gun-*[4] and *ij·i-gō·nga-*.[5]

VI. Lozenge Pattern.

(*a*) *jō·bo-tàrtà·nga-* (*b*) *īgē·unga-*.



Painted with *tâ·la-ōg-* or *kâ·ngatâ-bŭj-*, on *rō·gun-*,[4] *ij·i-gō·nga-*,[3] *ô·do-*,[6] and *pŭ·kuta-*.[7]

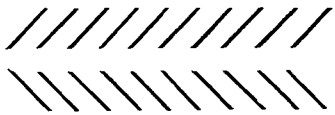
[1] Waistbelt, worn by married women only.
[2] Chaplet, worn by both sexes.
[3] Sounding board, used in keeping time for dancers.
[4] *Vide* Appendix B, item 26.
[5] *Vide* Appendix B, item 31.
[6] *Nautilus* shell, used as a drinking vessel.
[7] *pŭ·kuta yât mâk nga-*, wooden tray used at meals.

VII. PLAIT ORNAMENT OR GUILLOCHE *(poliòr·nga-)*.



Painted with *tâ·la-ōg-* on bows and eating trays.

VIII. FISH-BONE (*bar·nga-*).



Painted on *chīp-*.[1]

IX. CROSS INCISIONS (*īgē·unga-*) (? *ig-yī·tinga*).



Cut by means of a *Cyrena* shell on bows (*kâ·rama-*), and handles of adzes (*wò·lo-*).

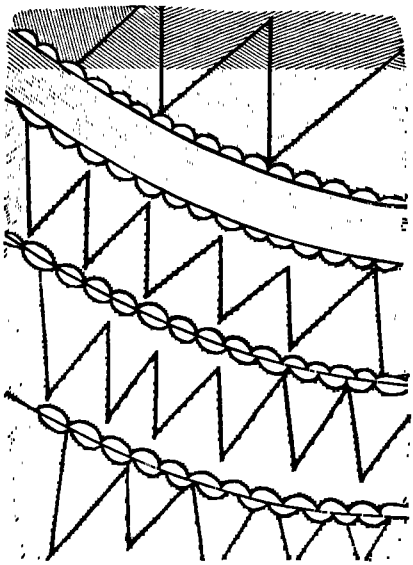
X. LOOP PATTERN (*ōt-ē·nga-*).



Painted with *tâ·la-ōg-* on the *chī·di-*[2]

[1] Sling or belt, worn like a sash by men and women for carrying children.
[2] *Pinna* shell, used as a plate or tray.

XI. VANDYKES WITH SCOLLOPED BANDS AND CROSS LINES (? *ig-pòi-nyakŋga*).



Painted with *ká·ngatá-bŭj-* on *ô·do-*[1]

Pottery.—1. These savages evince a superiority over the Australians, Tasmanians, Fuegeans, and many of the Pacific Islanders, in possessing some knowledge of the art of making pots.

2. It was formerly believed that they had "no vessel capable of resisting the action of fire,"[2] but careful examination of their kitchen-middens has proved, beyond all doubt, that their present manufacture was equalled—if indeed it were not surpassed—many generations ago by their ancestors; the traditions current among them on the subject may also be mentioned, in passing, as pointing to a like conclusion.

3. The late Dr. Stoliczka, in his interesting paper on the Andamanese kitchen-middens,[3] writes as follows:—"In submitting the rude fragments of pottery . . . to an archæologist in Europe, no one would long hesitate in referring them to the

[1] *Nautilus* shell, used as a drinking vessel.

[2] *Vide* Symes, who is also incorrect in adding in a footnote: "The fragments of earthenware vessels mentioned by Mr. Colebrooke were probably brought from the Nicobars or from the Continent, by the boats that often visit the Andamans for the purpose of taking the nests before mentioned" (*i.e.*, of the *Collocalia nidifi·a*).

[3] *Vide* Proceedings As. Soc. Bengal, January, 1870.

stone age, at least to the neolithic period; for, indeed, they are almost identical with the fragments of pottery found in the Danish kitchen-middens, though here fragments of pottery are comparatively very rare."

4. The manufacture of pots (*būj-*[1]) is not confined to any particular class, or to either sex, but the better specimens are generally produced by men, and though the result is in neither case very satisfactory as regards appearance, they yet answer the purpose for which they are intended very fairly,[2] and frequently serve as objects of barter among the various communities.

5. They invariably use, unmixed with any other substance, a particular description of clay called by them *būj-pâ-*, which is only found in a few places, where, of course, the work is usually carried on: the method pursued is similar to that practised by the Kaffirs, and the only implements employed are a short pointed stick, an *Arca* shell (the variety called *pô·rma-*), and a board, which is generally either a sounding board (*pū·kuta-yem·nga-*[3]), or, if sufficiently large, an eating tray (*pū·kuta-yât-mäk·nga-*[4]).

6. As nothing of the character of a potter's wheel is known among them, the shape of the vessels depends upon the skill of the operator and upon the correctness of his eye. The first step in the process of making a pot is to remove any stones that are in the clay, which is then moistened with water and kneaded until it is of a proper consistency; several lumps are next rolled out in succession on the board, by means of the fingers and palms, into strips of about fifteen inches long and half-an-inch thick: one of these is now twisted by the artist into a cup-like shape,[5] in order to form the base of the pot, which he proceeds to build up, taking care the while to exert sufficient pressure to ensure a uniform thickness, by adding one roll above another, each one commencing where the last ended, until the required dimensions are attained; then, if it be sufficiently firm and consolidated, an *Arca* shell is carefully passed (*ngâ·tanga-*) over the inner and outer surfaces, which are thus rendered smoother, and are at the same time freed from any minute bits of stone that had previously escaped observation; the serrated edges of the

[1] *Vide* Appendix B, item 18.
[2] *Vide ante* "Food," paragraphs 12, 21, and 27.
[3] *Vide* Appendix B, No. 19.
[4] *Vide* Appendix B, No. 72.
[5] The pots made by the *.yē·rewa-* and *.jär·awa-* tribes (*i.e.*, North and Little Andaman) have up to the present time been found to have a more pointed base than those of the five *.bō·jig* tribes, but I believe no Andaman pot intended for cooking purposes has yet been made of such a shape as to allow of its standing. The small cup- (or sometimes saucer-) like pots (*vide* vol. vii, Plate XIII, fig. 19*a*) are used for making and warming *kâ·ngatâ-būj-*.

shell also impart a more finished appearance to the vessel ere it is further engraved (*ō'inga-*) on both surfaces[1] in wavy, checked, or striped designs,[2] not, as has been assumed,[3] by the finger-nail, but by means of the pointed stick before mentioned. The potter then places the utensil in the sun to dry, or, if the weather be wet or cloudy, before a fire, taking care to alter its position from time to time so that all parts may be equally subjected to heat. When sufficiently hardened, he bakes it thoroughly by placing burning pieces of wood both inside and around the vessel; occasionally during this process the pot cracks, which of course renders it useless, but if this does not happen it is allowed to cool, and is then considered ready for use.

7. With good management a pot is ordinarily fit for use by the close of the day on which it is made. They may be said to be all of one quality and to differ only in size so as to be suitable for the use of a single family or a large party. The largest description is usually only to be seen in permanent encampments, the smaller kinds being taken when occasion arises for a migration, as for instance on account of a death,[4] or because arrangements have been made for an entertainment at some other place.[5] The medium size is almost invariably provided with a rough basket-work casing, which not only renders it more portable but also serves to protect it, in some measure, from the many accidents to which it is liable.

8. The pots ordinarily made will hold about nine pints, but the larger kinds possess double this capacity, while others again are no larger than half an ordinary cocoanut-shell; these last are employed in making *kâ'ngatâ-būj-*, and also when using it;[6] with this exception none of the vessels are reserved or manufactured for any special purpose, but serve alike for all times, whether for festivals, migrations, or ordinary occasions. No substitutes for

[1] Perhaps the original object of this practice may be explained by the conjecture contained in the following extract from Peschel's work:—"In examining the site of an old pottery manufactory of the Red Indians on the Cahokia, ... Carl Rau discovered half-finished vessels, that is to say, baskets of rushes or willow, lined inside with clay. When the vessel was baked the fire naturally consumed the external covering. . . . That the Europeans of prehistoric times also originally lined basket-work with clay, may be inferred from the decorations of vessels of the stone age. These decorations consist merely of rows of marks made with the finger-nail, as if to represent the traces left by the basket-work. When some bold individual began to shape the clay by hand, his earthen vessels were perhaps regarded as not genuine, or of inferior quality, as they had not originated in the time-honoured fashion; in order to meet these doubts he may have counterfeited the impressions of the rushes with his nail."

[2] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XVI, for illustration of these.

[3] *Vide* de Roepstorff.

[4] *Vide ante* "Death and Burial," paragraphs 4 and 15.

[5] *Vide post* "Games and Amusements," paragraph 21.

[6] *Vide* Appendix B, item 62.

pottery are in use, as has been supposed,[1] unless the fact of certain molluscs[2] being cooked in their shells can be so described. Broken pottery is not buried in graves or beneath landmarks, but is cast aside as rubbish.

9. No kind of painting or varnishing is ever attempted, and models of men or animals are never made. They are also ignorant of glazing and of making porous pottery for cooling vessels.

Natural Forms and Miscellaneous Manufactures.—1. The natural forms of stones are employed by the Andamanese, as by other savage tribes, as anvils and hammers. Like the natives of New Guinea,[3] they always carry with them, or keep ready for use, one or more *Cyrena* shells (*ū·ta-*), as these serve them in a great variety of ways: for example, in *dressing* and *preparing* the wooden portion of their arrows; in *sharpening* their bamboo and cane[4] knives, and the inner edge of the boar's tusk, in order to adapt it for use as a plane; as a *spoon*,[5] in eating gravy, &c.; as a *knife*, in cutting thatching leaves, &c., and in severing the joints of meat; and as a *scraper* in separating the pulp from the fibre of the *Anadendron paniculatum* and other plants, from which they manufacture their various descriptions of string and cord; these shells are likewise employed in making the ornamental incisions in their weapons, implements, leaf-ornaments, &c.,[6] in preparing the peculiar *ūj-*[7] appendage (worn when dancing); and they are also frequently used for planing purposes.[8] Indeed, I think I may fairly say that among their savage arts there is probably nothing so calculated to surprise and interest a stranger as the many and clever uses to which necessity has taught them to put this simple but highly effective tool.

[1] This refers to the following passage in the late Dr. Stoliczka's "Note on the Kjökken-Möddings of the Andaman Islands":—"I have been informed that in some parts of the island their only cooking utensils are large specimens of *Turbo marmoratus*, valves of *Tridacna gigas*, and others."

[2] Viz.:—*Cyrena*, *Arca*, *Mytilus smaragdinus*, *Ceritheum*, *Patella variabilis* (limpet), and a few other small varieties.

[3] "They always carry with them a bamboo knife; . . . when required they sharpen the edge with a shell (a fresh water species of *Cyrena*), which is always carried for the purpose. . . ." (See a paper on the natives of the Fly River, New Guinea, by Signor L. M. d'Albertis, in the "Journ. Anthrop. Inst.," vol. VI, p. 215, 1876).

[4] Like the Tahitians and Fijians of former times they have also been in the habit of using bamboo knives; these are made of the outside of a piece of bamboo, are shaped into form while green, and are then dried and charred so as to render them as hard and sharp as possible.

[5] "The mussel-shell suggested the first idea of the spoon, and still performs its functions on the Atlantic shores of Morocco" (Peschel).

[6] *Vide* "Ornamentation," paragraph 2.

[7] *Vide* Appendix B, item 76.

[8] It has already been mentioned under "Food" (para. 8) that the *Cyrena* is also used in opening other bivalves.

2. *Arca* shells, on account of their serrated lips, serve the double purpose—when a pot is being manufactured—of removing pieces of stone from the outer surface, and of imparting a more finished appearance to the vessel. *Pinna* shells are kept as receptacles for *tâ'la-ōg-*, and as plates for food, while *Nautilus* shells do duty as drinking vessels. No evidence can be found in support of Mr. St. John's statement,[1] that human skulls are used as boxes to contain small objects, for neither these nor the skulls of animals appear to have been ever so employed;[2] the former are kept and carried, as I have elsewhere explained, merely as mementoes of the departed, and the latter are stuck on poles, or hung round the eaves of their huts, as trophies of the chase. *Pinna* and other shells are said to have been used in former times as adze blades, but this is no longer the case, for quantities of iron are always obtainable. Strange as it may seem to some of my readers, there is no trace or tradition of stone having been utilised for this purpose.

3. The only instances in which these tribes appear to have had recourse to the natural defences of animals in the manufacture of their weapons are—(*a*) in the use of the serrated bone at the root of the tail of the sting-ray[3] for their fish-arrows; and (*b*) of the valves of *Perna ephippium*,[4] which were formerly —after being ground and shaped—fastened to their wooden-headed arrows, for use in hunting, and in hostile expeditions. Since, however, they have found themselves able to procure ample supplies of iron, these shell arrow-heads, like the shell adze-blades, have been discarded in favour of iron wire, nails, hoop-iron, &c.

4. The bamboo, although not employed by the Andamanese in such a variety of ways as it is by many savages, is yet in constant use in one or other of the following modes, viz:—of the ordinary medium size (male species) they form the *shafts* of their turtle-harpoons;[5] of the female species[6] they make *water-holders*, and receptacles for cooked food[7] when travelling (*gōb-*[8]); *knives* (*pō-chō-*[9]), which are narrow pieces hardened

[1] Transactions of the Ethnol. Soc., vol. v, p. 43.

[2] Very possibly the belief originated in the manner I suggested in a previous paper (*vide* vol. xi, p. 273).

[3] *Vide ante* "Hunting," &c., paragraph 11.

[4] *Vide post* "Stone Implements," paragraph 5 (footnote).

[5] The shafts of their pig spear, being short are made of heavier material, viz., the thick rattan.

[6] Pieces of *Bambusa gigantea*, which have floated across from Burmah, or have reached their shores from wrecks, are much prized as buckets, none but the small ordinary bamboo being indigenous.

[7] *Vide ante* "Food," paragraph 31.

[8] *Vide* Appendix B, item 82.

[9] *Ibid.*, 69.

over a fire, and sharpened by means of a *Cyrena* shell; *netting-needles* (*pō·tòkla-*[1]) and *tongs* (*kai-*[2]), which last consist merely of a strip of bamboo, bent double, with pointed ends;[3] the slender *Bambusa nana*, called *rī·di-*, is generally selected for forming the hooked pole (*ngâ·tanga-*[4]), and it is likewise invariably employed for the shafts of their wooden and iron-pointed arrows.

5. Although there are materials ready to hand wherewith they might easily construct a few such simple musical instruments as are made and used by the Nicobarese, no attempt seems to have been made by them in this direction, for the rude sounding board (*pū·kuta-yem·nga-*[5]) can hardly be included under this head. This circumstance seems to find its explanation in the fact that though they are good timists their talent for music is (as will be presently shown,[6] on the testimony of more than one competent authority) of the lowest type.

6. A brush, suitable for painting the stripes on their baskets (*jōb-*[7]), baby-slings (*chīp-*[8]), &c., is obtained from a drupe of the small fruit of the *Pandanus Andamanensium* (*mâng-*), the pulp having been first extracted by means of a *Cyrena* shell.

7. Skins of animals, thorns, or spines of trees are not made use of by these people in any way, nor do they have recourse to caves, rock-shelters, or tree-tops for their dwellings, though they occasionally, as I have before mentioned, avail themselves of the buttress-like formations of the roots of such trees as the *Ficus laccifera*, *Bombax malbaricum*, *Sterculia villosa*, &c., when travelling in bad weather, or when suddenly overtaken by a storm. Palm-leaves, as I explained when describing their habitations,[9] are employed for thatching purposes.

Leather-work.—From the last sentence it will be correctly inferred that there is no evidence of their having ever possessed a knowledge of the art of dressing and preparing skins for use in any form: this may be due as much to the limited number and variety of those animals[10] whose hides might be turned to account in this way as to the equable temperature of the climate, which renders such, or indeed any covering unnecessary.

[1] *Vide* Appendix B, item 67.
[2] *Ibid.*, 80.
[3] A narrow and pointed piece of bamboo, bitten at the end so as to loosen the fibres, is made to serve as a brush in painting designs on their buckets, sounding boards, &c.
[4] *Vide* Appendix B, item 17.
[5] *Vide* Appendix B, item 19.
[6] *Vide post* "Games and Amusements," paragraph 35, and footnote.
[7] *Vide post* "Basket-work," paragraph 3, and Appendix B, item 21.
[8] *Vide* Appendix B, item 24.
[9] *Vide ante* "Habitations," paragraph 2.
[10] Viz., dugong, porpoise, paradoxurus, iguana, and pig.

Metallurgy.—Having been, till comparatively recent times, ignorant almost of the existence as well as of the uses of iron, it is not to be wondered at that smelting and forging have been to them unknown arts. Now that they are better informed, and are able to procure pieces of hoop-iron, keel-plate, &c., they apply them to the manufacture of their blades and adzes, reducing them to the required thinness by continually striking the cold metal with a hard smooth stone (*tai·li-ban·a-*[1]) on a rude anvil (*râ·rap-*) of the same substance; such portions of the iron as are then found to exceed the dimensions requisite for the weapon or tool under construction are placed over the edge of the anvil and broken off by dint of repeated blows: the new edge thus formed, being more or less jagged, is then ground on a hone till the blade assumes the desired shape. Many of the aborigines who have been living for some time at Port Blair have, however, advanced a stage beyond this, for, by using such old chisels as they may succeed in procuring, they contrive to make their arrow-heads and other implements much more speedily than by the old method. The pointed weapons, *e.g.*, the *kowai·a-* and *tó·lbō·d-*, are made from pieces of stout wire, large nails, &c., by dint of laborious and patient hammering on the *râ·rap-*, and grinding on the *tâ·lag-*.

Stone Implements.—1. Although a great portion of the inhabitants of Great Andaman have for some time past been able through us to procure iron in sufficient quantities to substitute it for stone (not to mention bones and shells), still they can by no means be said to have passed out of the stone age; indeed, the more distant tribes still retain the use, with scarcely any modification, of most of the stone and other implements which served their ancestors. Even the inmates of the homes at Port Blair may still often be seen employing one or other of them, evidently therefore from choice: this more especially refers to the first three in the following list,[2] which comprises the small number of stone implements in ordinary use among the present aboriginal inhabitants of the islands:—

râ·rap-, the anvil.

tai·li-ban·a-, the hammer (probably a smooth round piece of dolerite or fine-grained basalt).

tâ·lag-, the whetstone (consisting of slightly micaceous sandstone).

tó·lma ló·ko tūg-[3] (lit., *quartz tooth*), chips or flakes for shaving, tattooing, &c.

[1] *Vide* next section, paragraph 1.

[2] There are no special makers, or procurers, of these stones.

[3] These are either fragments of opaque whitish vein quartz, or of transparent rock crystal, or are obtained from pebbles of opaque bluish-white quartz with

lâ-, cooking stones; common pebbles, about a couple of inches in diameter, which are heated, and then placed on all sides of the food which it is intended to cook.

2. When a new *whetstone* is required,—as no method of cutting stone is known to them,—a block of soft sandstone is chosen, which, if too large, is placed on a fire till it breaks; the piece best adapted for the purpose is then taken and shaped according to fancy, by the aid of one of the hard smooth stone hammers; after being used a short time the edges wear down, and it answers as a hone for several months.[1]

3. Chips and flakes are never used more than once; in fact, several are generally employed in each operation: those having a sharp blade-like edge are reserved for shaving, while others with a fine point being kept for tattooing or scarifying; when done with they are thrown on a refuse heap, or otherwise disposed of, lest injury should befall any one by inadvertently treading on them. Flaking is regarded as one of the duties of women, and is usually performed by them.[2]

4. For making *chips* two pieces of white quartz are needed; the stones are not pressed against the thigh, nor are they bound round tightly so as to increase the line of least resistance to the blow of the flaker; but one of the pieces is first heated and afterwards allowed to cool, it is then held firmly and struck at right angles with the other stone: by this means is obtained in a few moments a number of fragments suitable for the purposes above mentioned. A certain knack is apparently necessary in order to produce the kind of chips which are at the time required: the smallest flakes are obtained in the same manner and never by pressure.

5. Glass chips are now generally used by all who are in communication with ourselves, in preference to those of flint, as they are sharper and more effective; the method in which they are obtained is the same, the thick lump of glass forming the bottom of beer and wine bottles being selected for the purpose, and never the thinner portions.

6. It has been stated[3] that formerly, for tattooing, a "sharpened flint bound to a stick" was used, and that the present instrument is a bit of broken bottle "inserted into the split extremity of a stick"; no instance has, however, been found confirmatory of the words quoted, and the Andamanese

fatty lustre, thin chips of which are translucent at the edges. (For this description I am indebted to Mr F. W. Rudler.)

[1] For the mode of use *vide* Appendix B, No. 52.

[2] All women can scarify and act as barbers, but only about 50 per cent. of them undertake the more difficult task of tattooing.

[3] *Vide* Dr. Day.

themselves declare that they never haft the stone chips or glass flakes, and that the former are never "sharpened," but produced in the manner already described.

7. Quartz is commonly met with throughout the country occupied by the tribes with which we are in friendly intercourse; no difficulty, therefore, is ever experienced in obtaining *it*, or, indeed, *any* of the other varieties of stone which they use. It is employed for no other purposes than those here indicated, as has been assumed,[1] and the art of producing fire by its means is unknown to them.[2]

8. The whetstone and hammer only are offered as mediums of exchange, but no great value is attached to either of these objects, nor is any superstition associated with their usage: they are therefore—when no longer serviceable—cast aside.

9. Stones are not used by them for cutting wood or bone, the latter being usually crushed by a hammer for the sake of the marrow. Before the introduction of iron, small holes were bored with bone or pieces of shell, but rarely, if ever, with stone, and no implement has been found which might be supposed to have served as a stone saw or scraper, for which purposes shells apparently have been generally employed.[3]

10. In his "Note on the Kjokken-Möddings of the Andaman Islands" the late Dr. Stoliczka also refers to a celt found in one of these refuse heaps as "a small but typical arrow-head," and describes it as of Tertiary sandstone. The Andamanese, however, maintain that they never, even when iron was scarce, made arrow-heads, axes, adzes, or chisels of stone; they also affirm that the fragments which have been found in the kitchen-middens, and which have given rise to the impression of having formerly served one or other of the above purposes are merely quartz flakes or broken pieces of cooking stones or hones which, in former times as now, were thrown among the rubbish when no longer of use.[4]

11. Stones are not regarded as thunderbolts or worn as amulets: they are not placed in water previous to their being worked, and holes are never bored in them, nor is the surface ever ground or polished.

[1] "From the flint they manufactured knives . . . and arrow-heads" (de Röepstorff), and elsewhere he speaks of "flint hatchets," which not improbably were as much unknown in former times as at the present day. *Perna ephippium* (*ē·la-*) shells were formerly sharpened and converted into arrow-heads: hence *ē·la-* has ever since been adopted as the name of the bladed (or pig) arrow, even although iron has now been entirely or very generally substituted for shell. Adze blades were, it seems, sometimes made of *Pinna* shells.

[2] *Vide ante* "Fire," paragraphs 1 and 4.

[3] *Vide ante* "Natural Forms," paragraph 1.

[4] *Vide* my remarks on this subject in vol. xi, p. 271.

Basket-work.—1. Among the few remaining industries of these savages on which I have a few words to say is that of basket-making: these baskets are invariably made from the best specimens of the common cane called *pī·dga-* which is similar to, if not identically the same as that ordinarily used by our basket-makers and chair-menders.

2. After removing the leaves, part of the cane is cut into lengths of 3½ or 4 feet, and the "skin" or cuticle is shredded off into strips ¼ or ⅕ inch wide; the remainder of the cane is split into as long pieces as possible, and the "skin" is cut into strips somewhat narrower than the others; shorter lengths of the canes form the "ribs" or "stakes," in and out of which the strips are woven or "slewed."

3. In order that the basket may stand steadily[1] it has always a "kick" like our bottles, and to construct this is of course the first object; when the stakes have been firmly secured in the centre, they are placed over a small hole scooped out of the ground, and the heel of the basket-maker is placed on them while the weaving is commenced; when it has been carried on to a breadth of 2 or 3 inches the heel is removed, the canes reversed, and the work proceeds in the ordinary way until within an inch of the required depth, where, for the sake of appearance, the interweaving is omitted: the handle is then formed out of a strip of the bark of the *Melochia velutina* (*al·aba-*); stripes of *tâ·la-ōg-* and *kòi·ob-* are usually added by way of ornamentation; no method of rendering them waterproof is known. Baskets are not converted into moulds for pottery; but sometimes, when travelling, earthen vessels are placed in a loose wicker casing, in order to protect them, and at the same time to facilitate their removal.

4. There is a marked difference[2] between the baskets made by the five *.bō·jig* tribes and those manufactured by the *.yē·rewa-*; with the latter the work is more neatly finished, and the opening is small instead of being wide, as is the case among the former.[3]

5. Baskets are used for all sorts of purposes by men, women, and children, and, considering the rough usage to which they are subjected, last fairly well, for they seldom require to be renewed for several months: they are not used as strainers or colanders, the fine net (*châ·panga-*) serving this purpose.

String, &c.—1. The Andamanese do not produce their stout cord (*bē·tma-*), string (*bē·tma-ŀā-*), or twine (*mó·la-*), from animal

[1] The *.jär·awa-* baskets are generally small at the base, and having no "kick" are not usually able to stand unless placed between logs of wood or other objects.

[2] The reader is referred to the excellent sketch of an Andamanese basket which appeared in the "Journ. Anthrop. Inst.," vol. vii, Plate XIII, fig. 17.

[3] *Vide* vol. xi, Plate XXIII, fig. 14.

substances, but from the bark fibres of trees and shrubs, known to them by the names of *al·aba-* (*Melochia velutina*), *pī·lita-* (*Gnetum edule*), and *yō·lba* (*Anadendron paniculatum*). The first of these is found growing near the shore, where it seldom attains a height of 20 feet; it is from fibre obtained from the bark of this tree that their cinctures (*bē·tma·bā-*), harpoon-lines (*bē·tma-*), and turtle-nets (*yó·to·tē·pinga-*) are manufactured. When any of the articles have to be made or replaced, it becomes the duty of some member of the male sex to procure a smooth clean branch—one which is also fairly straight and free from gnarls being preferred—and to remove the bark; the cellular integument is next scraped with a *Cyrena* shell (*ū·ta-*) until the fibres which it encloses are laid bare: these are then placed in the sun, or before a fire, to dry; when ready for use (*i.e.*, when thoroughly dry) the ropemaker ties several of the filaments to his toe and proceeds with his work by winding another strand spirally round them, adding a fresh length from time to time. When special strength or durability is needed, a coating of black wax (*tō·bul-pīd-*) is finally applied. The yarn thus produced is termed *bē·tma-mai·anga-*. When a long piece of this has been made (say 30 yards), a large portion of it is wound round the two cross-sticks forming the *kū·tegbo-*.[1] The operator, having then seated himself with legs outstretched, places a stick or cane between the big toes of his feet, and over this bar he passes the *kū·tegbo-*, thus enabling him to wind it continuously round the other half-length of the yarn, which, for convenience sake, he has previously placed by his right side, so that it is drawn behind his neck and over his left shoulder as the work proceeds. After the first foot or so of the cord has been thus made, the operator holds or clutches that portion with his toes. It will be understood that in employing the *kū·-tegbo* in the above manner, it becomes necessary at frequent intervals to unwind a certain quantity from that implement, in order to enable the work to progress. The cord thus made is called *bē·tma-*, and this it is of which their harpoon-lines and turtle-nets are made. The *bē·tma-bā-* (lit., small *bē·tma-*), mentioned above, is made in the same way, but of course less fibre and a smaller *kū·tegbo-* are used.

2. For making hand fishing-nets (*kūd-*) and sleeping-mats (*pär·ēpa-*[2]), the fibre of the *Gnetum edule* (*pī·lita-*) is used; in the preparation and manufacture of these, women exclusively are concerned; the first process is to cut a number of the trailers into lengths which are determined by the distances between the knots and joints: these are held against the

[1] "The cord (used for large nets, &c.) possesses the valuable quality of hardening in the water" (*vide* Mouat, p. 326).

[2] *Vide* Appendix B, item 65.

thigh, and the cuticle is removed by means of the *Cyrena* shell; the underlying white fibres are left for a week or ten days in the sun until thoroughly dry, when they separate readily, and are easily worked up into fine or coarse twine, as may be required by the manipulator.

3. The fibre of the *Anadendron paniculatum* (*yō·lba-*) is chiefly used for making bowstrings, reticules (*châ·panga-*), necklaces, and twine for arrow fastenings; its manufacture is accordingly not restricted to either sex. When the bark has been stripped off, in lengths of 8 to 15 inches, the operator presses the inner portion upon his (or her) thigh, and then rapidly but carefully passes a *Cyrena* shell along the outer surface until the fibres alone remain; these are then, as in the previous cases, dried in the sun, or before a fire; when a sufficient supply of material has been thus obtained, it is made into fine twine, or, if not required for immediate use, wrapped in leaves in order that it may be kept fresh. Although apparently free from any obnoxious properties, this plant, as well as the fibres obtained therefrom, until it is converted into twine or bowstrings, is believed by the Andamanese to render the flesh of a turtle uneatable if placed near it; consequently this meat, when inadvertently so contaminated, is thrown away; further, no one who has been collecting *yō·lba-*, or who has been engaged in preparing the fibre, can (for a period extending to three days) be allowed to cook a turtle, or even to accompany a party engaged on a turtling expedition! Sharks and other dangerous fish are also credited with having so wholesome a horror or detestation of this plant (and also of *Cyrena* shells!) that the aborigines are in the habit of attaching some *yō·lba-*, or *Cyrena* shells (or both), to their cinctures as a safeguard when about to swim in parts believed to be infested by these creatures.

4. The yellow skin of the root of a certain orchid, called *râ-*, which is commonly found on trees near the shore, is often seen intertwined with their *yō·lba-* string, in personal ornaments, and occasionally in the decoration of weapons, but where strength is a requisite it is of course not used.

5. Bowstrings of *pī·lita-* and *yō·lba-* are made in the manner described in the manufacture of *al·aba-* rope, but ordinary string is made in the following manner:—a few of the prepared filaments are twisted into a yarn on the thigh with the palm of the hand; when two lengths have been obtained, they are together rolled into string of the desired strength, and beeswax is smeared over it to make assurance doubly sure.

6. Twine, made from the *yō·lba-*, is used in netting the fine chains (*rāb-*[1]) and the reticules (*châ·panga-*[2]); for turtle-

[1] *Vide ante* "Death and Burial," paragraph 5, and Appendix B, item 42.
[2] *Vide* Appendix B, item 22.

nets the stronger *al·aba-* is employed, while for the hand fishing-nets (*kūd-*[1]) string, made from the *pī·lita-*, is almost exclusively reserved. In this handicraft the Andamanese are especially skilful, and regulate to a nicety the size of the mesh by using the little or forefinger; it should be mentioned that their rude netting needles of bamboo (*pó·tòkla-*[2]) are not very dissimilar to those used in Europe. Sewing is to them an almost unknown art, but they describe needlework by the word *jâ·tke*, which expresses their manner of uniting the large *kâ·pa-* leaves, to form a screen, with the pliable stem of this leaf, and also their mode of repairing a canoe, holes being bored and strips of cane (*pī·dga-*) threaded above and below the crack, which has been previously filled in on both sides with *tō·bul-pīd-*.[3]

Games and Amusements.—1. And now, having passed in brief review their various arts and manufactures, I will bring my account of Andamanese life to a close with a brief description of their games and amusements.

2. Unlike many Eastern races they evince from their earliest years a partiality for active pursuits in which monotony or great bodily exertion are not entailed, and great was the delight of the children in the Orphanage when they were instructed in some of our English games, especially kite-flying, and see-saw;[4] it is at the same time curious to note that, though not borrowed from aliens, their pastimes, in many instances, bear close resemblance to those in vogue among children in this and other lands; notably is this the case with regard to those known to us as blind-man's-buff,[5] leap-frog,[6] and hide-and-seek.[7]

3. With respect to the first-named of these, large leaves, in lieu of a handkerchief, are fastened over the eyes, and the difficulties of the "blind man" are greatly increased by its being obligatory for him to catch the person who blinded him while being pulled about, and jostled by the rest of the players.

4. In "leap-frog," instead of stooping, one man squats on his heels while his companion bounds over him without touching him and takes the same position, to be in his turn jumped over.

5. Mock pig-hunting[8] after dark is another very favourite amusement; one of the party undertakes the *rôle* of the pig, and, betaking himself to a distance, runs hither and thither,

[1] *Vide* Appendix B, item 20.
[2] *Vide* Appendix B, item 67.
[3] *Vide* Appendix B, item 57.
[4] To this game they have given the name *ad-yē·nenga-*.
[5] Called by them *ij·i·tâ·pa-lī rnŋa-*.
[6] Called by them *koktár-tidō·atinga-*.
[7] Called by them *ab-â·tanga-*.
[8] Called by them *ad-reg·igŋga-*

imitating the grunting of that animal, while his comrades shoot off harmless arrows[1] in the direction from whence the sounds proceed until one hits its intended mark.

6. Another variety of this game is as follows:—one man leaves the encampment after dark armed with *ū·tara-* arrows, which, on his return after a brief absence, he fires off into different huts, while the occupants hide themselves or run away screaming as if attacked by an enemy.[2]

7. Similarly in the sea they play at turtling: one end of a long line is held firmly by some one in the canoe, the other being fastened to the arm of the man who is to represent the turtle. Diving suddenly into the water, he is at once followed by the rest, who try to capture him, while he does his utmost to elude them by swimming, doubling, and diving, till fairly exhausted.

8. Sometimes when they are assembled together in the evening one of the men will get up and exclaim, "I will go after the Evil Spirit of the Woods" (*wai dō .e·rem-chàu·gala jū·dke*).[3] Taking nothing with him but a lighted log, he goes off into the jungle and is soon lost to sight; his friends then call to him and inquire if he has caught the demon, whereupon he begins to rush about shouting and hitting about him as if in pursuit of, or struggling with some one; he is next asked "Who are you?" (*mij·a ngōl?*)—apparently to suggest the idea that during his combat with the evil one he has been transformed, or rather, has lost his identity,—the reply is given in a feigned voice, "I am ——" (naming some person long since deceased) "and have come for such and such a purpose." Something being then thrown at him he threatens them with annihilation unless they desist; still remaining in his hiding-place he amuses himself, and presumably also his friends, by singing, until at last two or three of the company search him out and bring him back to the camp, where, with a view of keeping up his assumed character, he remains silent and feigns sleep, often for the rest of the evening.

9. An impromptu swing is sometimes devised out of one of the long stout creepers, commonly found overhanging a bough perpendicularly from a height of 40 to 50 feet: clinging firmly to this they swing each other[4] as far as possible, just as we swing children.

[1] Made of a soft wood called *ū·tara-*, of the *Alpinia* species; the points are flattened with the teeth before using

[2] This game is called *it·ita·jnga-*.

[3] This game is known as *.e·rem-chàu·gala àtē·pnga.*

[4] This goes by the name of *ig·lē langa-*. [During a visit paid to Rutland Island, in 1881, a *jār·awa-* swing was seen suspended from a stout branch. It

10. Young men often compete with one another in swimming, diving feet foremost into the water from an overhanging rock or branch with shouts of delight. Sometimes they will race together in their canoes,[1] but this only happens on chance occasions, when the idea has been suddenly suggested by one of the party, and not by pre-arrangement.

11. In parts, where trees of the *Alpinia* species abound, they now and then vie in seeing who amongst them can force his way with greatest rapidity through the dense barrier of leaves and smooth stems which it presents,[2] and thus probably they acquire, in great measure, the skill which in an early section[3] I mentioned they invariably display when threading their way through the jungles.

12. At times they compete in throwing *upwards* a short piece of string, weighted at each end with a stone,[4] the object of course being to see who can fling highest. Similarly *Cyrena* shells are occasionally sent skimming through the air, to test their powers in throwing long distances.[5]

13. While wandering along the coast they may sometimes be seen playing at ducks-and-drakes[6] with any small flat stones they may chance to pick up.

14. They are all especially fond of showing their skill in shooting a moving object, and for this purpose select the round root of a creeper called *gō·dam-*, or the pod of the *Carapa obovata*, which they roll along the ground or down a slope, aiming at it while in motion.[7]

15. No special amusements are indulged in by women[8] whose chief delight seems to consist in the laudable endeavour to surpass one another in adorning the persons of their relatives with the best design in *tá·la-ōg-*.

16. Young boys sometimes amuse themselves with wrestling (*ad-lē·nga-*) on the sand, where also they may not unfrequently be observed playing at mock burials.[9] On these occasions one

resembled those used by European children, but was made of cane and was provided also with a narrow wooden seat.]

[1] This racing is termed *àr-tirlanga-*.

[2] This is called *tàr-ló·tokanga-*.

[3] *Vide ante* "Physical Powers and Senses," paragraph 4.

[4] This game is called *tū·temo-*

[5] This variation of the game is called *á·kà-kē·chianga-*; when the shell is about to be thrown the convex side is held uppermost.

[6] The word to express this is *chē·chekanga-*.

[7] This has also been found to be a practice among the *jär·awa-*.

[8] It has, however, been observed that, not unlike their fairer sisters elsewhere, they are especially fond of gathering together and chatting of the social topics of the hour; the eagerness and volubility they display in their discussions on these occasions are quite amusing to watch.

[9] These are termed *ab-nät·nga-*.

of their number has to submit to be covered with sand until the head only is visible; fire is then placed near the spot after the custom of their race; for the like reason these sports usually take place near some landmark, such as a conspicuous tree, boulder, or overhanging rock: when the semi-interred child has had enough of it he jumps out and another companion is chosen to take his place.

17. Children may also sometimes be seen diverting themselves by tying a fine string to the leg of a toad or tree-lizard;[1] this cruel sport, unless their elders interfere, is only ended by the death of the unfortunate captive.

18. They are fond of searching for small crabs and fish, and having them cooked for a sham banquet:[2] the earnestness they display in "pretending" on these occasions is irresistibly entertaining, and would be heartily appreciated by European children who have experienced the delight of preparing a "doll's feast."

19. Boys also play at seizing each other under the surface of the water, or amuse themselves with making tiny canoes and floating them towards one another; they are, as I have before mentioned, early provided with miniature bows and arrows, and encouraged to become good marksmen.

20. While the foregoing amusements are of frequent occurrence among the juvenile members of a community,[3] the chief diversion of the adults consists in entertainments resembling the Australian "corroboree," when dancing and singing are kept up for many successive hours by moonlight, or by the blaze of the camp fires.

21. Any passing event, such as a successful hunt, an unexpected visit from distant relatives or friends, the commencement of a new season, the recovery of some member of the community from illness, a marriage, and even the termination of the mourning period,[4] is made the excuse for one of these entertainments.

22. Besides these smaller festivities, large gatherings of a tribe are also organised from time to time by the head chief, who generally receives an offer, in the first instance, from the members of some far-off community to give a *jeg-* at his encampment. As these offers are only made when it is known to be convenient they are always accepted, and invitations for a certain day are at once sent to all living within an easy distance.

[1] This is called *rō·pan lik-lī·rnga-*.

[2] These are called *gab-mäk·nga-*.

[3] 'Cats' cradle" (called by them *jī·bra-*) is also one of their recognised amusements.

[4] *Vide* "Death and Burial," paragraph 7.

23. The intervening days are spent by the proposers of the entertainment in perfecting a song and chorus, which it is intended to perform, and which generally has been composed expressly for the occasion, by some volunteer[1] upon whom also devolves the responsibility of singing the solo and training the so-called chorus. As a considerable amount of distinction among his fellows may be gained by the manner in which he acquits himself in his onerous undertaking, it will be readily understood that the *improvisatore* spares no pains over the preparation and rehearsal of a new song, which, as he fondly hopes, will render his name, if not immortal, at all events famous for many a year. The subject is chosen in reference to some recent personal or tribal exploit or adventure, and is embodied in a distich, followed by a chorus, or rather refrain, which as often as not consists merely in a repetition of the couplet forming the solo; in this refrain women alone are instructed; the main point aimed at is apparently accuracy of time, for, as I have said in my last paper, everything, even sense, is sacrificed in their songs to rhythm.[2]

24. In order to combine pleasure with profit, sundry implements or articles, which are more common in their community than in that of their hosts, are taken by the visitors on these occasions for purposes of presentation, or, to speak more correctly, of barter.

25. It is the duty of the hosts to make all necessary preparations, to provide torches, as well as food and water, for the expected guests, and to sweep the *bū·lum-*,[3] clearing it of all rubbish, lest inconvenience or injury should be occasioned by the stones, shells, bones, &c., which gradually accumulate, in spite of the "kitchen-middens" so invariably found in the vicinity of all permanent encampments of long standing.

26. When nearing the scene of their festivity the visitors pause, for the double purpose of a rehearsal and that the women may have time to adorn the party in their holiday suits of paint, as these would have lost their beauty and freshness if donned previous to leaving home.

27. That a weird and dramatic effect should be produced on a civilised mind by one of these entertainments, especially when occurring at night, will be readily understood if one pictures the scene :—in a small clearing in the midst, or on the border of a dense jungle are gathered a hundred or even more painted

[1] A song that has proved a success at any of these festive tribal meetings is sometimes repeated by "special request" at one of the smaller gatherings; "all rights" in these productions "are reserved," and no one but the composer is at liberty to sing a song, however popular!

[2] *Vide ante* "Language," paragraph 6.

[3] *Vide ante* "Habitations," paragraph 11.

savages of both sexes; the moon sheds a soft light on all, while from each hut the lurid glare of a wood fire throws its fitful shadows across the scattered groups; on one side, seated in a row, are the women who are to join in the refrain; on the other, in dark relief within their several huts, are seen the audience, many of whom assist in marking time by clapping their hands or by slapping the hollow between their outstretched legs with their open palms. In a conspicuous position stands the composer and conductor: with one foot on the pointed end of a sounding board,[1] and supporting himself on a spear, bow, or pole, he gives the time to the singers and dancers by kicking the board with the sole or heel of the other foot; in this wearying duty he is from time to time relieved by one of his male friends and, occasionally, even by a woman. During the solo, which partakes of the character of a "recitative," all other voices are hushed, and the listeners remain motionless, but as soon as the signal is given for the refrain, a number of men emerge suddenly from the gloom surrounding the encampment, and rushing excitedly into the arena, perform their part with frantic energy, generally adding their voices to those of the women to swell the volume of sound. Save at the *t'ī-tó·latnga-*,[2] women only occasionally take a share in the dances, but their performances are considered by some foreigners as rather suggestive of impropriety—with what justice I am not prepared to say, for modesty, at least, is satisfied by the wearing of a larger leaf apron than usual.

28. There is now-a-days[3] but one description of dance in vogue with either sex, but it differs somewhat in the two sexes, and therefore must be dwelt upon briefly.

29. A man, when dancing,[4] curves his back, and throws all his weight on one leg, the knee of which is bent; his hands are raised to a level with his chest, and outstretched before him, the thumb of one hand being held between the forefinger and thumb of the other, while the remaining digits are separated and extended upwards;[5] he then advances by sudden jerks and hops

[1] These sounding boards (*pŭ·kuta-yem·nga-*) somewhat resemble in shape the carapace of a turtle, and might naturally be mistaken by a visitor (*vide* Colebrooke and Mouat) for shields, but I cannot account for Dr. Hodder's description of a "rough *skin* drum" (*vide* "Pall Mall Budget" of 20th April, 1877). See also Appendix B, item 19.

[2] *Vide ante* "Death and Burial," paragraph 7.

[3] From Lieutenant Colebrooke's description of the Andamanese dance of a hundred years ago, it would seem that since that date their style has undergone a great change, for he says they "dance in a ring, each alternately kicking and slapping his own breech *ad lib.*"

[4] *Vide* Plate IX, fig. 2.

[5] Sometimes to heighten the effect a bow and arrow are carried in this position.

taken with the leg on which he is resting, and taps the ground after every second movement with the sole of the other foot; in this manner he crosses and recrosses the entire *būlum-*, joining in the chorus as he proceeds, each step being taken in time with the thuds on the sounding-board, and the singing of the refrain. When fatigued, the performer makes a little variation by marking time in a rather odd manner, for the knees are bent, and the *heels* are raised alternately off the ground, the chief point of importance being to maintain the same time throughout.

30. Women, in dancing, swing their arms backwards and forwards; at the same time the knees are bent, and they make a succession of short bobs up and down, in perfect time; every now and then a few steps in advance are taken, and then the action is repeated.
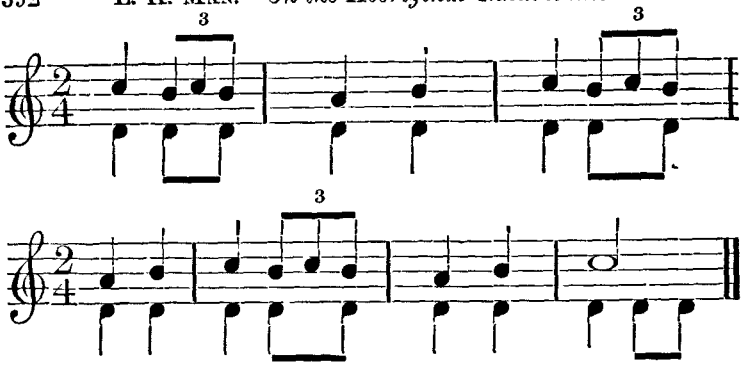
31. To convey an accurate impression of the exact step, or of the effect of the respective performances of the two sexes, is not easy, but I trust that the above descriptions will convey a fair idea of their general character and peculiarities.

32. The alternating of solo and chorus continues for many hours, and generally only ceases with the first faint streaks of dawn, when those of the hosts who have managed to keep awake during the long night revel, lead the visitors to the huts they are to occupy, and then themselves sing and dance as a return compliment.

33. To a stranger not gifted with a keen ear for music, there is at first a certain amount of attraction in the oft-repeated cadence, but it must be confessed that, after a residence in the neighbourhood of one of the homes, one learns to wish that their musical performances were characterised by a little more variety, and were rather less protracted, though some compensation may be found at night, as the steady continuance of the monotonous sounds has a most soothing and somniferous effect.

34. It seems hardly necessary to say that all their songs are sung in unison, for they have no idea of choral or part-singing. They appear, however, able to distinguish between various kinds of music, and especially appreciate the performances of our regimental bands.

35. Dr. Brander gives a specimen of their monotonous chant —the compass of which will be found to include only three notes—in the following stave of our musical notation:—



36. Every now and then, as the refrain ends, the soloist cries—

ō·ba eboyū· bē·date,[1] (*a*)

to which the singers respond by shouting—

tēâ·re-â·re-â·reâ,[1] (*b*)

which seems equivalent to *Tra-la-la*, for it has no meaning *per se.*

37. When the guests have sufficiently rested from their night's exertions, they visit their special friends or relatives, and, if within the prescribed limits of affinity,[2] indulge[3] in weeping together;[4] these visits are usually followed by an interchange of gifts, the hosts taking the initiative, and a *fracas* not unfrequently ensues, for donor and recipient are not always of a mind as to the respective values of their "presents." Should all, however, pass off smoothly, the assemblage breaks up into various small parties for hunting or fishing, according to the situation of the encampment.

[1] These are styled respectively the (*a*) *ârbē·datnga-*, and the (*b*) *â-rē·anga-* or *âryâ·nanga.*

Further, in reference to their musical abilities, I would here quote from a friend who at my request had kindly consented to test the powers of the aborigines in this particular, as I unfortunately am not qualified to do so myself:—

"I examined five women, seven men, and three young boys as to their musical abilities, and as far as I could judge, they have not the remotest idea of pitch or tune, even the chorus of their own song, *chēklū yâ· lak·u mē jrà?* started by *.bō·ra-gud*, was taken up in several keys, and it was difficult to distinguish the original. I tried all the voices separately; it seemed quite accidental if they pitched on the keynote, but as for leaving it when once got hold of to go up and down the scale they *would* not! so that it was impossible for me to ascertain either the quality or the register of the voices. The boys were, if anything, a shade the best; . . . a lot of drilling may beat a few notes into their heads."

[2] *Vide ante* "Customs, Meeting and Parting," paragraph 2.

[3] "The Sandwich Islanders recognise tears as a sign of happiness" (Lubbock, p. 552).

[4] No greetings take place on these occasions between the performers and their hosts until after the entertainment (which often lasts many hours) is over.

APPENDIX A.

ALPHABET FOR WRITING THE SOUTH ANDAMAN LANGUAGE.[1]

SIGN.	ENGLISH, &c.	SOUTH ANDAMAN.
	Oral Vowels and Diphthongs.	
a ..	idea cut	*al·aba* kind of tree
ā ..	cur (with untrilled *r*)	*bā* small, *yā·ba* not
à ..	Ital. casa	*elá·kà* region
â ..	father	*dâ·-ke* don't (imperative)
ă (1) ..	fathom	*.jăr·awa* name of a tribe
e (2) ..	bed	*ĕ·mej* name of a tree
	chaotic	*pŭ·d-re* burn-did
ē (3) ..	pair	*ē·la* pig-arrow
ı ..	lid	*ig-bâ·dig-re* see-did
ī ..	police	*yâ·dī* turtle, *pīd* hair
o ..	indolent	*.bòi·goli* European
ō (4) ..	pole	*jōb* basket
ò ..	pot	*pòl·i-ke* dwell-does
ô ..	awful	*tô go* wrist, shoulder
u ..	influence	*bŭ·kura* name of a tree
ū ..	pool	*pū·d-re* burn-did
ai ..	bite	*dai·-ke* understand-does
au ..	house	*chōpau·a* narrow
àu ..	Germ. haus	*chàu* body
òi ..	boil	*.bòi·goli* European
	Consonants.	
b ..	bed	*bŭd* hut
ch ..	church	*chák* ability, *mich·alen* why, *.rŭch* Ross Island
d ..	dip	*dō·ga* large
g ..	gap	*gōb* bamboo utensil
h ..	hay	*hē* ho! *áwē·h* (*h* sounded, see note 5) etcetera
j ..	judge	*jā·bag* bad, *ē·mej* name of a tree
k ..	king	*ká gal-ke* ascend-does
l ..	lap	*lōg* navigable channel
m ..	man	*mŭ·gu* face
n ..	nun	*nàu-ke* walk-does, *rō·pan* toad
ñ ..	Fr. gagner	*ōtñá·ba* another, one more
ng ..	bring	*ngī·ji* friend, *ĕrkē·dang-ke* in-trees-search-does (11)
ñg (6) ..		*ñgá* more
p ..	pap	*pīd* hair
r (7) ..	rest	*ráb* necklace of netting, *rá·tà* wooden arrow
ṛ (8) ..	torrent	*ṛá·ta* sea water
s ..	sad	not found (9)
t ..	ten	*tī* blood
t' ..		*t'ī* tear (from the eye) (10)
w ..	wet	*wō·lo* adze, *.bal·awa* name of a tribe
y ..	yolk	*yabă·* a little

[1] As elsewhere mentioned, I am indebted to the kindness of Mr. A. J. Ellis, F.R.S., for the improvements and additions to the list of symbols formerly employed by me. This alphabet is an extract from his able "Report on Researches into the Language of the South Andaman Island," &c., which formed part of the President's annual address for 1882 to the Philological Society.

RULES.

The syllable under stress in any word is shown by placing a turned period (˙) after a long vowel, or the consonant following a short vowel, in every word of more than one syllable.

When no stress is marked, it should be placed on every long vowel and diphthong in a word, or if there are none such, on the first syllable.

As it is not usual to find capitals cast for the accented letters, the capital at the beginning of a word is for uniformity in all cases indicated by prefixing a direct period, as *.bal˙awa*.

Substantives, adjectives, and adverbs generally end in "*da*," which is usually dropped before post positions and in construction; hence when I write a hyphen at the end of a word, I mean that in its full form it has "*da*."

NOTES.

(1) *ä* accented before a consonant, is the English *a* in m*a*t, as distinguished from *à*, which is the short of *á* or Italian *a* in *a*nno.

(2) *e* accented in closed syllables, as in b*e*d; in open syllables unaccented, as in ch*a*otic, or Italian padr*e*, am*o*re.

(3) No vanishing sound of *i* as in English s*ay*.

(4) No vanishing sound of *u* as in English kn*ow*.

(5) *h* is sounded after a vowel by continuing breath through the position of the mouth, while remitting the voice.

(6) *ñg* is a palatalised *ng*, and bears the same relation to it as *ñ* bears to *n*. To pronounce *ñ* attempt to say *n* and *y* simultaneously; to pronounce *ñg* do the same for *ng* and *y*.

(7) This *r* is soft and gentle with no sensible ripple of the tongue, as very frequently in English, but not merely vocal.

(8) This *ṛ* is strongly trilled, as *r* in Scotch or Italian *r*, or Spanish *rr*.

(9) The Andamanese cannot hiss, and hence they substitute *ch* for *s*, thus *Rūch* for *Rūs*, the Hindī corruption of Ross.

(10) This *t'* is a post-aspirated *t*, like the Indian *th*, quite different from English *th*, and hence to prevent confusion, the Greek *spiritus asper* is imitated by a turned comma. The sound *t'* is common in Irish-English, and may often be heard in England.

(11) When *ng* is followed by a vowel, it must run on to that vowel only, and not be run on to the preceding vowel, either as in "finger" or in "singer," thus *bē˙-ri-nga-da* "good," not *bē˙-ring-a-da*, *bē˙-ring-gad-a*, or *bē˙-rin-ga-da*. It is only when no vowel follows that *ng* is run on to the preceding vowel.

APPENDIX B.

LIST OF OBJECTS MADE AND USED BY THE ANDAMANESE.[1]

1. *kâ˙rama-*.[2] Bow of a flattened S-shaped form, as made and used by the tribes of South and Middle Andaman, and the

[1] In arranging this list, I have taken care to retain the numbers which are attached to each object in the Andamanese collection presented by me to General Pitt Rivers in 1878, and which is now exhibited in the South Kensington Museum. Except where otherwise specified, these objects are those used by the people of South Andaman; many of them, however, are believed to differ but slightly from such as are made by the remaining seven tribes of Great Andaman; but greater diversities are to be found among objects made by the Little Andaman and other *jär˙awa-* tribes.

[2] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XIV, fig. 1.

Archipelago, viz.: *.bō·jig-ngī·ji-*, *.bō·jig-yâ·b-*, *.ôko-jū·wai-*, *.â·kà-.kó·l-*, and *.bal·awa-*,[1] and called by them *bō·jig kâ·rama-*[2] (our style of bow), to distinguish it from the bows used by the inhabitants of North and Little Andaman: it is made of a hard wood, generally of a variety called *chai-*, or—though less frequently—of the *bad·ama-*, *yâ·rla-*, *pō·rud-*, or *châ·dak-*.[3] For hunting in the interior, the usual length of these bows, for the sake of convenience, is about 4 feet; the same or somewhat larger bows are used in the open jungle, along the coast, or when shooting fish; when made for presentation rather than for use, they are elaborately ornamented and carefully prepared in every way, and measure 6½ or 7 feet in length. It is customary to ornament both sides of every *bō·jig* bow, first by cutting a rough ×-like pattern along the edge from end to end with a *Cyrena* shell, and then with grass or leaves smearing *kòi·ob-* (item 60) over both surfaces, to form a background, upon which they finally paint a design in *tâ·la-ōg-* (item 58); the upper end, or nock, of the bow is also frequently decorated with a piece of fine netting called *râb-* (item 42); the bowstring is made of the bark fibre of the *Anadendron paniculatum* (Andam., *yō·lba-*, item 64), to which, to increase its strength, a coating of black beeswax (*tō·bul-pīd-*, item 57) is frequently applied. Children's bows[4] only are ever made of mangrove wood, and then the *Rhizophora conjugata* is usually preferred.[5]

[NOTE.—The North Andaman bows, called *chô·kio-*,[6] which are generally, if not always, made from the tree they call *bad·ama-*, differ somewhat in design from those just described: they are also more neatly made, and are never painted or otherwise ornamented, and are almost invariably of a uniform size, *i.e.*, 5 to 5½ feet in length. The Little Andaman and other *.jär·awa-* bows[7] are of a totally different form, and appear to be commonly made of wood of the tree known to them as *lō·koma-*.]

2. *rà·tà-*.[8] The common blunt wooden-headed arrow, used when practising at an object:[9] the shaft consists of a reed-like variety of bamboo (*Bambusa nana*) called *rī·di-*, and the foreshaft is generally a piece of the hard portion of the wood of the

[1] For the situation of these tribes *vide* "Journ. Anthrop. Inst.," vol. xi, p. 278, and the map published with Part I.

[2] For the purposes of inflection and syntax, the termination *da*, which belongs to most substantives, adjectives, and many adverbs, is invariably dropped (*vide* Appendix A, "Journ. Anthrop. Inst.," vol. xi, p. 269).

[3] The botanical names of the various trees which have as yet been identified will be found in Appendix L.

[4] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XV, fig. 2.

[5] This of course is only procurable by those living on or near the coast. The bows of the *ē·rem-tà·ga-* children are usually made of wood of the *Trigonostemon longifolius*.

[6] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XIV, fig. 4.

[7] *Ibid.*, Plate XIV, fig. 3.

[8] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XIV, fig. 8.

[9] *Vide* Part III, "Games and Amusements," paragraph 14.

Areca, or less frequently of the root of the *Rhizophora conjugata:* the point is usually hardened over a fire, and straightened by means of their teeth.

3. *tī·rlē·d-*.[1] The ordinary fish arrow, which differs from the *râ·tà-* only in that the point is sharpened.

4. *tó·lbō·d-*.[2] Fish arrow, about 4½ feet long, made like the preceding varieties, but provided with an iron head and barb; the string fastenings attaching the same to the foreshaft are covered with *kâ·ngatâ-būj-* (item 62). In former times the head of this arrow consisted of a fish-bone; the serrated bone at the root of the tail of the sting-ray (item 53) was often employed for this purpose.

5. *ē·la-*.[3] Pig arrow, about 3½ feet in length: the foreshaft consists of a triangular piece of flattened iron fastened to the end of a small stick about 4 inches in length; at the base of the head one or two (rarely three) iron barbs are fixed to the stick, the end of which is fitted into a socket (*â-kà-chà·nga-*) provided for it in the shaft; the head and shaft are connected by a flattened thong about 8 inches long, made from the fibre of the *Anadendron paniculatum,* and which, before the arrow is fired, is always wound round the wooden portion of the foreshaft by twisting the latter when placing it in its socket; when an animal is struck the head of the arrow is retained in the flesh by the barbs (*archâ·ga-*), and as the foreshaft slips out of its socket by reason of the struggles and movements of the animal in its efforts to escape, the trailing shaft quickly becomes entangled in the brushwood, thereby detaining the victim and ensuring its capture.

6. *ē·la l'â·kà lū·pa-*.[4] This, as indicated by its name, is merely a plain pig arrow, having no foreshaft like the more elaborate *ē·la-*: it is less effective than the latter, but more easily made.

7. *tó·lbōd l'â·rtâm-*.[5]

7*a*. *ē·la l'â·rtâm-*[6] (lit., ancient). Fish and pig arrows, headed respectively with fish bone (*nīp l'àr bū·l-*, item 53) and the *Perna ephippium* shell, which are said to have been used in former times when iron was unobtainable.

8. *châm-pâ·ligma-*.[7] Plain wooden arrows, about 3½ feet in length, made of the wood of the Areca palm: it is said that when iron was scarce these were shaped somewhat like the *ē·la-* (item 5) or *tī·rle·d-* (item 3), and used as pig and fish arrows.

[1] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XIV, fig. 7.
[2] *Ibid.*, vol. xi, Plate XXIII, fig. 3.
[3] *Ibid.*, vol. vii, Plate XIV, fig. 5.
[4] *Ibid.*, vol. xi, Plate XXIII, fig. 5.
[5] *Ibid.*, fig. 4.
[6] *Ibid.*, vol. vii, Plate XII, fig. 7*b*.
[7] *Ibid.*, Plate XIV, fig 9.

but now they are never so employed, being apparently made only for the "sake of auld lang syne," or to display the skill of the maker.

[NOTE.—The *jär·awa-* are only as yet known to employ the two varieties of arrows, viz., the *ē la-* and the *tī·rlē d-*; the latter much resembles those bearing the same name and made by the eight Great Andaman tribes, but the former is a more formidable weapon, being larger and more strongly made.]

9. *ēr-dū·tnga-* or *gal·ain-*.[1] Pig spear, generally 6 or 7 feet long; the haft consists ordinarily of a piece of ground rattan (*bōl-*), and a large double-edged blade forms the head. This weapon is rarely used, the *ē·la* (item 5) being preferred.

[NOTE.—It appears that none of the North Andaman or *jär·awa-* tribes have ever been seen with such a spear; probably this is partly due to the difficulty they experience in obtaining iron.]

10. *kowai·a l'óko dū·tnga.*[2] Turtle spear: the shaft[3] is a bamboo (male species preferred), often 18 feet or more in length; for the reception of the harpoon a socket is prepared at the small end, which is strengthened by pieces of mangrove wood, over which strips of cane are neatly tied. The harpoon consists of a strong barbed iron head fastened to a short piece of wood to which a long line (*bē·tma-*) is attached. When a turtle or large fish is struck the harpoon detaches itself from the shaft, which floats and is picked up after the capture has been effected.

[NOTE.—A harpooner almost invariably follows up a successful cast by plunging into the water, lest in the act of dragging the line the harpoon should slip out of the wound and his victim should thus escape.]

11. *rō·ko-*.[4] Generic name of the various kinds of canoes made in recent years[5] by the aborigines of South Andaman and adjacent parts, where, owing to the facility of obtaining iron tools, large dug-outs, called *gī·lyanga-*, capable of accommodating twenty to forty persons, are constructed in place of the small outrigger canoes (*chá·rigma-*) with which the other tribes have still to content themselves. They are usually made of the *Sterculia villosa* (Andam., *bá·ja-*), and are often ornamentally painted.

[NOTE.—The outrigger is called *tel-*, and is always made of the wood of *maü-* (one of the *Sterculiaceæ*), which is soft and light.]

11*a*. *wāl·igma-*.[6] Paddle: these are not made by women, nor are they of any prescribed size, this being regulated merely by the fancy of the maker, and the material at his disposal; they

[1] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XIV, fig. 12.
[2] *Ibid.*, Plate XIII, fig. 24.
[3] This shaft is called *tóg-*, and is used for poling the canoe along the shore.
[4] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XII, fig. 69.
[5] *Vide* Part III, "Navigation," paragraph 4, and footnote.
[6] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XIV, fig. 70

are frequently adorned by women with chevrons[1] (*jō·bo-tàrtă·nga-*) of *kòi·ob-* (item 60) or *tâ·la-ōg-* (item 58).

12. *yôto-tē·pingă-*. Turtle-net, made by men,[2] of a stout cord (*bē·tma-*), which is prepared from the bark fibre of the *Melochia velutina* (Andam., *al·aba-*); the meshes vary in size according to the fancy or skill of the maker.[3]

13. *dâ·kar-*.[4] Bucket made by the Great Andaman tribes of the wood used in constructing canoes, *i.e.*, *Sterculia villosa*, with a loop of cane to form the handle; the implement used in hollowing out these vessels is the blade of the adze (*wō·lo-*, item 15), which is detached from its handle and fastened to a straight piece of wood so as to form a sort of chisel.

[NOTE.—The Little Andaman and other *.jär·awa-* buckets are made in the same manner, but are much larger and superior in every way; they are, moreover, neatly ornamented round the sides with strips of cane, evenly laid on and fastened at the rim by plaiting.]

14. *ô·do-*.[5] Nautilus shells painted with *kâ·ngatâ-būj-* (item 62), and used as drinking vessels.

15. *wō·lo-*.[6] Adze: this tool is used not only in making canoes, buckets, bows, &c., but in digging graves. The handle consists of an L-shaped piece of mangrove wood, *Rhizophora conjugata* (Andam., *bad·a-*), and the blade is generally made of such pieces of iron as the keel-plate of a boat; formerly *Pinna* and such like shells are said to have been used, but strange to say it does not appear that stone celts were ever so employed.

16. *lâ·kà-*.[7] A long pointed stick of the *Memecylon parviflora*, (Andam., *pē·taing-*) or *Rhizophora conjugata* (Andam., *bad·a-*), which is used as a hoe in digging up yams and other edible roots.

[NOTE.—A similar implement is found in use among the Australians.][8]

17. *ngâ·tanga-*.[9] Pole, 12 to 15 feet long, of *Bambusa nana* (Andam., *rī·di-*), to which a short piece of bamboo is securely fastened, with a strip of cane (Andam., *pī·dga-*), or stout cord, to form a hook; it is used in gathering fruit—especially jack-fruit (*Artocarpus chaplasha*)—and is the only object of the nature of a hook made by the Andamanese.

18. *būj-*.[10] Cooking pot: these are made of various sizes by

[1] *Vide* Part III, "Ornamentation," paragraph 7.
[2] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XII, fig. 60.
[3] *Vide* Part III, "String," paragraph 2.
[4] *Vide* "Journ. Anthrop. Inst.," vol vii, Plate XIII, fig. 14.
[5] *Ibid.*, fig. 20.
[6] *Ibid.*, fig. 13.
[7] *Ibid.*, vol xi, Plate XXIII, fig. 2.
[8] *Vide* "Anthropology," p. 216, by Dr. E. B. Tylor, T.R.S.
[9] *Ibid.*, fig. 1.
[10] *Ibid.*, vol. vii, Plate XIII, fig. 19, and Plate XVI.

members of both sexes, and are shaped by the hand and eye only;[1] after being sun-dried they are surrounded with, and filled by pieces of lighted wood in order to complete the process of baking. When needed for travelling they are fitted with light wicker frames (*būj-râ·mata-*) to facilitate their removal, and to protect them from injury. The capacity of an average-sized pot is 9 or 10 pints.

[NOTE.—The *.yē·rewa-* and *.jăr·awa-* pots have a conical base, and in this respect differ from those made by the tribes of South Andaman.]

19. *pū·kuta-yem·nga-*.[2] Sounding-boards—used for marking time during a song or dance[3]—which are scooped out of the fallen trunks of the *Pterocarpus dalbergioides* (Andam., *châ·-langa-*), the wood of which is very hard; they are always of the same shield-like shape, and are frequently as much as 5 feet long and 2 feet wide; the concave side is generally ornamented with designs in white clay (*tă·la-ōg-*, item 58). When in use the convex side is uppermost; the pointed end is stuck in the ground, and kept in position with one foot; a stone is then placed under the board to enable the performer to make more noise when keeping time, which he does by thumping or kicking the board with the heel of the other foot.

20. *kūd-*.[4] Hand fishing net constructed from the prepared fibre of the *Gnetum edule* (Andam., *pī·lita-*) by women and girls, who also by its means catch large quantities of fish and prawns, both in streams and among rocks along the coast at low tide. It is about the size of an ordinary butterfly-net; the frame is made of a length of a creeper known to them as *ó·rta-tăt-*, the ends being bound together to form a handle.

21. *jōb-*.[5] Baskets used by all the Great Andaman tribes for carrying food and various other articles: they are generally made by women.[6]

[NOTE.—The baskets made by the *.yē·rewa-* or North Andaman tribes, differ from those found among the *.bō·jig* tribes in having a wider base and a smaller mouth.][7]

21*a*. The *jăr·awa-*[8] baskets differ from those in use among the Great Andaman tribes in having no firm base.

22. *chă·panga-*.[9] Netted reticules made and used by women for carrying small objects: the string used for this purpose is

[1] *Vide* Part III, "Pottery," paragraphs 4 and 6.
[2] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XIII, fig. 16.
[3] *Vide* Part III, "Games and Amusements," paragraph 27.
[4] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XIII, fig. 18.
[5] *Ibid.*, fig. 17.
[6] *Vide* Part III, "Basket-work," paragraphs 2 and 3.
[7] *Vide* "Journ. Anthrop. Inst.," vol. xi, Plate XXIII, fig. 14.
[8] *Ibid.*, fig. 14*a*.
Ibid., vol. vii, Plate XII, fig. 33.

generally prepared from the fibre of the *Anadendron paniculatum* (Andam., *yō·lba-*, item 64), but as this is not always attainable the less-valued fibre of the *Gnetum edule* (Andam., *pī·lita-*) is sometimes employed as a substitute.

23. *pär·ēpa-*.[1] Sleeping mat made by women of strips of a species of *Calamus* fastened securely in the ordinary manner with string made from the fibre of the *Gnetum edule* (Andam., *pī·lita-*, item 65). When in use the rolled-up portion of these mats—which are generally 15 to 20 feet long—serves as a pillow.

23*a*. The *jär·awa-*[2] sleeping mats hitherto found have always been of short lengths, but as wooden pillows similar to those in use among the Nicobarese have been found in their huts, it is probable that the specimens obtained represent full sized mats.

24. *chīp-*.[3] Sling or band made by women from the bark of the *Melochia velutina* (Andam., *al·aba-*), which is worn like a sash over one shoulder by women, and sometimes by men, when carrying infants.[4]

The plain specimens are called *chīp-lū·pa-*.

Those ornamented with netting *chīp-râ·b-*.

Those ornamented with shells *chīp-yä·mnga-*.

25. *bōd-*.[5] Waistbelt made from the leaves of the young screw-pine (*Pandanus Andamanensium*); the bunch of leaves or tail is worn at the back.

[NOTE.—These specimens are of the kind worn by women and girls of the eight Great Andaman tribes; the females of the *jär·awa-* tribes appear to go entirely nude.]

25*a*. *bōd-*.[6] Waistbelts of similar description, but having a less bushy tail, are worn more or less generally by men and youths of the eight Great Andaman tribes.

26. *rō·gun-*.[7] Belt made from the leaves of the young screw-pine, which is worn by adult married women only.

27. *tâ-chô·nga-*.[8] Garters, which are frequently worn by men and youths: they are made in the same way as the *bōd-* (item 25.)

28. *tô·go-chô·nga-*.[9] Bracelets, also worn by men and youths, much resembling the last-named object.

[1] *Vide* "Journ. Anthrop. Inst.," vol. xi, Plate XXIII, fig. 15.
[2] *Ibid.*, fig. 15*a*.
[3] *Ibid.*, vol. vii, Plate XIII, fig. 25.
[4] *Vide* Part III, "Social Relations," &c., paragraph 10.
[5] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XIII, fig. 27.
[6] *Ibid.*, fig. 27*a*.
[7] *Ibid.*, Plate XII, fig. 29.
[8] *Ibid.*, vol. xi, Plate XXIII, fig. 9.
[9] *Ibid.*, fig. 8.

29. *gar'en-pē'ta-*.[1] Ornamental waistbelt of *Dentalium octogonum*, which is worn occasionally by both sexes.

30. *bē'ria- jär'awa-*[2] waistbelts, necklets, and armlets, which are believed to be worn by men and youths only.

31. *ij'i'gō'nga-*.[3] Head-dress of Pandanus-leaf, worn occasionally by young men and women.

The following ten articles are worn by both sexes as ornaments either round the neck or head :—

32. *ī'na-ô'la-tâ-*[4]	..	made of fresh water-shells.
33. *pē'r tâ-* ..	..	„ cane or wood.
34. *yâ'dī-tâ-*[5]	..	„ turtle bones.
35. *bai'an-tâ-*	..	„ paradoxurus bones.
36. *dū'ku-tâ-*[6]	..	„ iguana bones.
37. *bē'wa-tâ-*	..	„ red coral.
38. *râ'ta-ô'la-tâ-*	..	„ small sea shells.
39. *rē'keto-tâ-*[7]	..	„ *Hemicardium unedo* shells.
40. *ngâ'tya-tâ-*[8]	..	„ mangrove seed tops.
41. *gar'en len pī'd-*	..	„ *Dentalium octogonum* and children's hair.[9]

42. *râb-*.[10] Fine netting, plain or ornamented with shells, worn occasionally by both sexes as necklaces, armlets, &c. Baby-slings (item 24), bows, pig-spears, &c., are sometimes ornamented with pieces of this netting.

43. *râ-*. Ornamental cord, made by men from the yellow skin of an orchid root, and worn round the waist intertwined sometimes with fibres of the *Melochia velutina* (Andam., *al'aba-*). It is also occasionally interwoven with fibres of the *Anadendron paniculatum* (Andam., *yō'lba-*), in order to make ornamental fastenings for arrows, turtle harpoons, and personal adornments.

44. *chàu'ga-tâ-*.[11] Human bone necklaces sometimes ornamented with *Dentalium octogonum*. These are worn as charms during illness by friends or relatives of the deceased, and may be often seen tied tightly round the part in pain ; they are also worn when in health to ward off disease.[12]

[1] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XII, fig. 35.
[2] *Ibid.*, vol. xi, Plate XXIII, figs. 13, 13*a*, and 13*b*.
[3] *Ibid.*, figs 6 and 6*a*.
[4] *Ibid*, vol. vii, Plate XII, fig. 42.
[5] *Ibid.*, fig. 39.
[6] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XII, fig. 40.
[7] *Ibid.*, fig. 45.
[8] *Ibid.*, fig. 73.
[9] An interesting description of these various necklaces will be found in a paper by Dr. Allen Thomson. F.R.S., "Journ. Anthrop. Inst.," vol. xi, p. 295.
[10] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XII, fig. 34.
[11] *Ibid.*, fig. 46.
[12] *Vide* Part I, "Medicine," paragraphs 2, 7, 8.

45. *chàu·ga l'ōt chē·ta-*.[1] Human skull, carried *in memoriam* by relatives of the deceased.[2]

46. *chàu·ga l'â·kà ē·kib-*.[3] Human jaw, which is carried in a similar manner.[4]

47. *pī·licha-*.[5] Boar's tusk, used for planing bows, paddles, &c.: as it answers this purpose, in *their* hands, admirably, it is much valued; when required for use the inner edge is sharpened with a *Cyrena* shell.

48. *tai·li-ban·a-*.[6] Stone hammer, which the men now use principally in beating out iron for arrow-heads, &c., and the women when making bone necklaces.

49. *chī·di-*.[7] *Pinna* shell, used as plates for food, or as receptacles for pigments.

50. *tô·lma l'ôko tūg-* and *bī·jma l'ôko tūg-*.[8] Quartz and glass flakes and chips used for shaving, scarifying, and tattooing.[9]

51. *ū·ta-*.[10] *Cyrena* shell: great use is made of this, and of other varieties of this class, viz., as knives for cutting thatching leaves, for making the ornamental incisions on bows, paddles, &c., for planing, for sharpening the boar's tusk (item 47), for dressing and preparing arrows, for making the *ūj-* (item 76), for preparing the fibres obtained from the *Melochia velutina* (Andam., *al·aba-*), *Gnetum edule* (Andam., *pīl·ita-*), and the *Anadendron paniculatum* (Andam., *yō·lba-*); they are also used as spoons in eating the gravy of pork, turtle, &c., and are in fact so constantly in demand that a supply is always kept and carried about ready for use.

52. *tâ·lag-*.[11] Hone or whetstone, which when in use is held in the right hand and applied to the edge of the blade, which is generally held over the inner side of the left foot, the operator being seated on the ground; pointed weapons are sharpened on it in the usual way.

53. *nīp l'àr bū·l-*. Serrated bone at the root of the tail of the sting-ray; in former times their *tô·lbōd-* arrows (items 4 and 7) were headed with these bones, and it is believed that the early reports of the poisoned arrows of the Andamanese are entirely

[1] *Vide* "Journ. Anthrop. Inst.," vol. xi, Plate XXIII, fig. 7.
[2] *Vide* Part II, "Death and Burial," paragraphs 5 and 19.
[3] *Vide* "Journ. Anthrop. Inst.," vol. xi, Plate XXIII, fig. 7*a*.
[4] *Vide* Part I, "Medicine," paragraph 9.
[5] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XII, fig. 65.
[6] *Ibid.*, fig. 72.
[7] *Ibid.*, Plate XIII, fig. 26.
[8] *Ibid.*, Plate XII, fig. 61.
[9] *Vide* Part III, "Stone Implements," paragraphs 3–6.
[10] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XII, fig. 63.
[11] *Ibid.*, fig. 56.

due to this circumstance ; for, owing to their fragile spikes, these bones are apt to cause very serious flesh wounds.[1]

54. *gar·en-*. *Dentalium octogonum* used in the manufacture of various personal ornaments.

55. *rīm-*. Resin obtained from a large tree (*Celtis* or *Gironniera*) of that name, which is used in making *kâ·ngalâ-būj-* (*vide* item 62).

56. *â·ja-pīd-*. Wax of the white honeycomb : it is one of the ingredients in *kâ·ngatâ-būj-* (item 62), and is also used in the manufacture of the *châ·panga-* (item 22).

57. *tō·bul-pīd-* or *lē·re-*. Wax of the black honeycomb, made by a small description of bee in the hollows of trees : it is generally procured by men, and is applied to bowstrings, arrow fastenings, and the *kūd* (item 20) is used for caulking cracks in canoes and buckets.

[NOTE.—The honey is eaten, but is not so much relished as that from the white combs.]

58. *tâ·la-ōg-*.[2] White clay, used mixed with water, for ornamental painting of the person and of various articles, *e.g.*, bows, baskets, buckets, trays, &c.: the work is done by women : when painting their relatives they spare no pains in executing neat designs with their finger-nails.

[NOTE.—Women during pregnancy are in the habit of nibbling small quantities of this substance from time to time, in the belief that it is beneficial to their condition.]

59. *ōg-*. Common whitish clay, lumps of which are found somewhat plentifully in various parts of the islands. It is used, mixed with water, for smearing over the body when the heat is oppressive.[3] A lump of it is placed on the top of the forehead as a symbol of bereavement, and kept there generally until the expiration of the mourning period.[4] It is also sometimes used by way of ornament on the person, by smearing the trunk and limbs with the wash and then, before it has had time to dry, passing the outspread finger-tips over the surface so as to form some pattern.[5]

60. *kòi·ob-*.[6] Red-ochre paint, which is made by mixing red

[1] "These wounds often cause great inflammation, whence a notion has been prevalent from ancient times that the sting is charged with venom, but of this there is no evidence. Other species of the sting-ray are plentiful in the warmer parts of the world, and they are everywhere dreaded. The spine is used by the savages of the South Sea Islands to point their spears ("Chambers's Cyclop.").

[2] *Vide* Part III, "Painting," paragraph 7.

[3] *Vide* Part I, "Anatomy and Physiology," paragraph 5.

[4] *Vide* Part II, "Death and Burial," paragraphs 2, 6, 8, and footnote [1].

[5] *Vide* Part III, "Painting," paragraphs 5 and 6.

[6] *kòi·ob-* is collected chiefly during the dry months ; in its natural condition, as found, it is called *kòi·ob-chū·lnga-* ; in that condition it is applied to sores, and to the persons of fever patients ; it is administered internally for coughs, fevers, &c. (*vide* Part I, "Medicine," paragraphs 4 and 5).

oxide of iron, *ū·pla-* (*vide* next item), with some greasy substance, the fat of the pig or turtle, sometimes of the iguana, dugong, &c., and occasionally the oil of an almond, called *ē·mej-*, is used. This pigment is applied to the person either ornamentally or otherwise. It is accredited with hygienic properties,[1] and from its mode of application it can be readily determined whether the wearer is suffering or rejoicing. The nostrils and centre of the upper lip are occasionally painted with it, as the smell of the fat is agreeable to them.[2] Before a corpse is removed for burial it is smeared over the face and neck with this paint as a mark of respect, and in order to please the departed spirit.

61. *ū·pla-*. Red oxide of iron after it has been dried and baked. It is principally used in making the pigment described in the preceding paragraph. It is also employed in the manufacture of the red wax, called *kâ·ngatâ-būj-* (*vide* next item).

62. *kâ·ngatâ-būj-*. Red wax, generally prepared by men, composed of *â·ja-pīd-*, *rīm-*, and *ū·pla-* (items 56, 55, and 61); in the absence of the last-named ingredient *kòi·ob-* (item 60) is substituted. These three substances are melted and stirred over a fire until of a proper consistency; the pigment is then poured into small pots or large shallow shells, where on cooling it soon hardens. When required for use the pot or shell is placed on the fire and the melting wax applied according to fancy. The string fastenings of fish and pig arrows (items 4, 5, and 6) the turtle harpoon (item 10), and pig spear (item 9), are protected with a coating of this wax, and it is applied ornamentally to the food trays (item 72), nautilus shells (item 14), and the outside of buckets (item 13); it is also used for closing cracks in buckets, and in canoes if not too large.

63. *chū·lnga-*. Blue-black clay found in small springs in the jungles: in its liquid form it is applied medicinally after the manner of *kòi·ob-chū·lnga-* (*vide* footnote [6], p. 403).

64. *yō·lba-*. (*Anadendron paniculatum*), the fibre of which is much valued on account of its excellence; string made from it is used for bowstrings and arrow fastenings, for netting the *châ·panga-* (item 22), and *rāb-* (item 42), for making their various necklaces and other personal ornaments, and also for the fastenings of knives and turtle harpoons.

65. *pī·lita-* (*Gnetum edule*), from the fibre of which string is prepared and used almost exclusively by women, chiefly for the manufacture of the *kūd-* (item 20), and *pār·ēpa-* (item 23); it is

[1] *Vide* Part I, "Medicine," paragraph 2.
[2] *Vide* Part I, "Odour."
[3] *Vide* "Journ. Anthrop. Inst.," vol. xi, Plate XXIII, fig. 10.

not sufficiently strong to serve as arrow fastenings, though on an emergency it is sometimes used for this purpose.

66. *al·aba-* (*Melochia velutina*). From fibre obtained from this tree rope is made for turtle-lines (*bē·tma-*), nets, and cables, the preparation and manufacture of which devolve on men; the bark of this tree also furnishes the material of which the *chīp-* (item 24) or baby-slings are made.

67. *pô·tòkla-*. Netting-needles, made in two sizes of bamboo, and used in making nets.

[NOTE.—The turtle-net (item 12) is not made with netting-needles, but with two sticks called *kū tegbo-*.]

68. *pô-chô-*. Bamboo knives, which are shaped into form while green and then dried and charred over a fire to render them sharp and fit for use; formerly they were employed for cutting meat and other food.[1]

69. *wai-chô-* and *pór-chô-*. Two varieties of cane knives,[2] but similar to item 68.

70. *tō·ug-*.[3] Torch, made by women, of resin wrapped in a large leaf (*Crinum lorifolium*); it is used when fishing, travelling, or dancing by night: the resin is obtained from a large tree called by them *maiī·-*, which also is often employed in the construction of their largest canoes. A larger description of torch is made by men, and used when fishing by night.

71. *lâ·pi-*. Gurjon wood torch, obtained from the heart of rotten logs of the *Dipterocarpus lævis* (Andam., *â·rain-*): as these do not burn so readily as the *tō·ug-* (item 70) they are rarely used outside their huts.

72. *pū·kuta-yât-māk·nga-*.[4] Food tray, made by men of some soft wood, generally of the large flat buttress roots of the trees (*Sterculiaceæ*) of which their canoes are made.

73. *â·ra-*. Long fringe-like cane-leaf wreaths, which are made by women, and suspended from trees, &c., round an encampment or hut where a death has occurred, and round the spot where the corpse is deposited in order to warn off persons inadvertently approaching the place, which is believed to be haunted by the spirit of the deceased.[5]

74. *kâ·pa-jâ·tnga-*. Fan-like screen, made by women, of a description of palm-leaf (Andam., *kâ·pa-*), two of which are fastened together with leaf stems: it is used for many purposes, amongst others as a protection from rain and from the direct rays of the sun in hot weather; in the absence of a *pār·ēpa-* (item

[1] *Vide* "Journ. Anthrop. Inst." vol. xi, Plate XXIII, fig. 12.
[2] These are made of a light hard wood known as *bē·rewil-*.
[3] *Vide* "Journ. Anthrop. Inst.," vol. vii, Plate XII, fig. 66.
[4] *Ibid*, Plate XIII, fig. 16.
[5] *Vide* Part II, "Death and Burial," paragraph 3.

23) it is often used as a sleeping mat, and it serves also as a wrapper for bundles of various kinds.

75. *kâ·pa-*. Leaf wrappers, as described above, are employed for storing and packing the red oxide of iron.

76. *ūj-*.[1] Long brush-like shavings of the *Tetranthera lancæfolia*, prepared by men with the sharp edge of a *Cyrena* shell. When dancing these are often held (by both sexes) in their hands, or are stuck in their waistbelts or other personal ornaments.

77. *kô·no-*.[2] Iron knife used in cutting up food; to some a wooden or iron skewer is attached, they are then called *châm-chô-*.

78.[3]

79. *ō·bunga-*. Species of apron, consisting of one to six leaves of the *Minusops Indica* (Andam., *dō·gota-*), which are fastened to the lowest *bōd-* by women from motives of modesty;[4] the leaves are not spread out so as to cover a wide surface, but are laid one above the other, and removed separately as each becomes stiff and shrivelled: the reason given for the selection of this particular leaf is that it keeps green and fresh for a longer time than any other.

[NOTE.—The women of the North Andaman tribes, until recent years, appear to have worn no *ō·bunga*, or only in a very modified form; the change which is now observable among them in this respect is doubtless to be traced to their intercourse with the people of South Andaman.]

80. *kai-*.[5] Bamboo tongs, made by women, and used for any purpose which would involve a risk of burning or scalding the fingers, such as lifting a pot or piece of cooked food off the fire.

81. *ko·pöt-*. Bucket made from a single joint of the *Bambusa gigantea*, pieces of which are sometimes found on the coast, having floated ashore from the neighbouring continent or from wrecks; they are much valued on account of their lightness and the labour saved in making a wooden bucket (*dâ·kar-*, item 13), which being, as before described, scooped out of a single piece of wood, is a laborious undertaking.

[NOTE.—The origin of the *dâ·kar-* is doubtless to be traced to the *ko·pöt-*.]

82. *gōb-*. Bamboo vessel, of which there are two varieties, viz., (*a*) for use as a water-holder: this is often 4 or 5 feet long, the partitions at the points being broken through with a spear head or other suitable instrument, the lowest one only being left to form the bottom of the vessel; and (*b*) for use as a cooking pot and food-holder: its length consists of a single joint of

[1] "Journ. Anthrop. Inst.," Plate XII, fig. 37.
[2] *Ibid.*, Plate XIII, fig. 21.
[3] This No. is attached to "Specimens of Andamanese Hair."
[4] *Vide* Part I, "Psychology and Morals," paragraph 8, and footnote.
[5] *Vide* "Journ. Anthrop. Inst.," vol. xi, Plate XXIII, fig. 11.

bamboo, into which—after it has been cleaned, washed, and dried over a fire—food is packed and cooked; as will be seen by reference to Part III,[1] these vessels are only capable of serving on a single occasion, the handle is formed with a piece of *bē·tma-*.

83. *lâ-*. Cooking stones: the mode in which they are used is described in Part III.[2]

[A few other objects, omitted from this list, will be found described in "Journ. Anthrop. Inst.," vol. vii, pp. 457, 65.]

[1] *Vide* "Food," paragraph 31.
[2] *Ibid.*, paragraph 27, and "Stone Implements," paragraph 2.

APPENDIX C.

TABLE OF WEIGHTS AND MEASUREMENTS OF 48 ANDAMANESE MALE AND 41 FEMALE ADULTS.

Males.

No.	Weight.	Height.	Size round head.	Round neck.	Round chest.	Round waist.	Round buttocks.	Round thigh.	Round calf.	Round ankle.	Round biceps	Round arm.	Round forearm.	Round wrist.	Length of spine.	Length of arm and hand.	Length from shoulder to elbow.	From shoulder to wrist.	From ankle to knee.	From ankle to hip.	Length of foot.
	lbs.	ft. ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
1	119½	5 3¾	22½	13	32	29	34½	20	12¾	8¼	12½	11	10⅜	6¼	21	29½	13	24½	17 1/4	35	10
2	95	4 10	20¾	12	30½	27½	32	18	12	7	11⅛	9⅛	8¼	5¼	18	26	12	21	14¼	28¼	9½
3	93	5 0½	20½	12½	29¾	26⅜	31	18	11½	7¼	9½	8¼	8¼	5⅜	17½	27¾	13¾	23½	15	31½	9½
4	96	4 11½	20½	12	31	27½	31½	18¾	12	7½	10¾	10	9⅛	5½	18	27	12	22¼	16	32½	9½
5	96	4 10¾	20⅜	12	30½	26½	33	18½	11⅜	7½	11¼	9½	8½	5½	18	27	13	22¼	15¾	31½	9¼
6	86	4 9	19½	12	29¼	25½	30	17	11½	7⅜	10	9	8⅜	5½	17¾	26	13	21½	14½	29	8⅝
7	93½	4 11	20¼	12	29	26⅜	30¾	17½	12⅜	7¼	10¼	8¾	9¼	5½	19	27	13	22	16	31	9
8	113	5 2	20¼	13½	31½	27	33¼	19½	12⅜	7¼	11½	10¼	9¼	5¼	19½	28½	14	23½	16½	31¾	9¾
9	118	5 0½	20	14	31½	29¼	35½	19½	12⅜	7⅜	11¾	10⅜	9¼	5¼	20	27½	12¾	22¼	16½	32½	9⅜
10	112½	5 0½	22½	13	31	27	34	19½	13¼	7⅜	11¼	10¼	10½	6¼	19	28½	13½	23¼	16	32	9¾
11	112	5 4½	20¼	12½	32½	29	34	18½	12½	7½	10½	10½	9½	5½	21	30	14	24	17	34½	10⅛
12	90½	4 8	20	11	28½	25½	31½	17¾	11½	6⅜	10	8¼	8¼	4½	17½	24¼	10¾	20	15	29½	8¼
13	93½	4 9	21	13	29¼	26	31¼	18½	11¼	7	10¾	9½	8½	5	18	25½	12	20¾	14	29¼	8¾
14	80	4 6	19½	11½	28	25	30	15½	10¾	6¾	9½	9	8¼	5¼	17	24½	10½	19	14	27½	8½
15	89	4 9½	19½	12	28½	25½	31½	17½	11	7	9¼	8½	8½	5¼	18	26	12	21¼	14½	30	8¾
16	99	4 9½	20½	12½	30	27	33½	18½	11¾	6¾	11½	10	9⅜	5½	17	25⅛	12	21	15	30	8⅜
17	77½	4 5¾	21	11¾	28	25	30½	18	11½	6¾	9¾	9½	8¼	5	17	24	10	19	14	28	8¼
18	108	5 1	20½	13	32½	27	32½	20	13½	7⅜	12⅜	10¾	10½	6¾	16	27½	12	22	16	33	10
19	94	4 11	20½	11⅜	29	26¼	31¾	18	12	7	10	9¼	8⅜	5½	17½	27½	13	23	15½	31½	9¼
20	93	4 10½	20½	12¾	29½	26	31	18	11¾	6¾	10½	9½	9	5½	16½	26	12	21½	15½	30	9
21	107	5 0	21	12½	31¼	27½	33	19	12½	7¼	11⅛	10¼	9½	5¼	20	25	11	21	16¼	32½	9
22	90	4 9	20	11¾	29	26½	30½	17½	12	7¼	10¾	9¾	8¼	5½	16	24½	12	20½	15	29½	9½
23	101	4 10	20½	12⅜	31¾	28	32	18½	12½	7¼	11¼	10	9½	5½	16½	26	12	21½	15½	30½	9½
24	omitted.	4 10	20¾	11⅝	29¾	27½	32½	19	11¾	7½	10½	9	8¼	5½	16¾	25¾	12¾	20½	15	30½	9¼
25	omitted.	4 9½	20½	12	29¼	27½	31	16½	11½	6¾	9¼	9	8½	5½	17	27⅛	12	22¼	16	29¾	9½
26	86½	5 0½	20½	12	29½	24½	30½	14½	12¼	7¼	10¾	9¼	9¼	5½	19⅜	28¼	12	24½	16½	33	9½
27	108	4 11	20	12¾	30¼	28½	34	20½	13	8	11¾	10½	9⅜	6	17¼	26	12	21	15½	28¾	9
28	112	5 1	21½	13	34	27½	34	20	13	7⅜	11	10½	10½	5¾	16	28	13	23	16¼	33⅛	9¼
29	104½	5 1½	21¼	13	31	28	32½	18½	12½	7¼	10½	9½	9¾	6	16	27	12	22½	16	32	9⅜

APPENDIX C (Males)—*continued.*

No.	Weight.	Height.	Size round head.	Round neck.	Round chest.	Round waist.	Round buttocks.	Round thigh.	Round calf.	Round ankle	Round biceps	Round arm.	Round forearm.	Round wrist.	Length of spine.	Length of arm and hand.	Length from shoulder to elbow.	From shoulder to wrist.	From ankle to knee.	From ankle to hip.	Length of foot.
	lbs.	ft. ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
30	104	4 9½	20½	12½	31⅜	28	32½	20½	13	7½	11½	10½	9½	5⅞	17	27	12	21½	16	31½	9¾
31	103	4 11½	21¾	12½	32½	27½	32½	19½	12½	7½	10½	10½	9¼	6	17	26½	12¾	22½	15¾	33½	9½
32	106½	5 0½	20½	11¾	30¾	28	32	18¼	12½	7¼	10½	9½	9	5⅝	18	29	14	24	16⅛	31½	9⅞
33	104	4 11½	19⅜	12	30½	29½	32	18	12	7½	9½	9	9	5½	17½	27	12¾	22½	16	30	9½
34	94	5 0½	20½	12½	29½	26¾	31½	18	12	7½	10½	9	9¼	5¾	16½	27	14	23	15½	30¾	9½
35	89	4 10½	20½	11½	28	26¼	30½	17½	11	6¾	9¾	9	8½	5¾	17	26	12¾	21¾	15	32	9
36	omitted.	5 1½	21½	12½	32½	28	33½	20	13	8	11⅜	10¾	9¼	6	18	29	14	24½	17⅛	36	10
37	97	4 10	20	13½	32⅛	27½	33	21⅜	13	7½	11	9¼	9¼	5¾	18½	26½	12	22	17	31½	9⅝
38	95	4 10	20½	12½	31	26½	31½	18½	12½	7½	10⅛	9½	9½	5½	16½	28	13	22½	16	33	9½
39	omitted.	4 10	20½	12⅝	28½	26	32	18⅛	11⅛	7½	10	9¼	9	5½	18	26	12	21½	15½	30	8½
40	99⅛	4 9½	21½	12⅝	31⅛	28½	32	19	13	8	11¾	10½	9	6	16½	25½	12	20½	15½	31	8¾
41	103	5 1½	20½	12½	27	29	32	18	12⅜	7½	11	9¼	9	5¾	18	28½	13	23¼	16⅛	32	9¼
42	86	4 9½	21½	11½	29½	24	30½	17¼	11½	6⅞	9¾	9¼	8¾	5¼	18¾	26½	12½	23	16	31½	8¼
43	90	4 9	19½	12	28½	25½	30½	17½	11½	7	9½	9	8⅝	5¼	20½	25	12¼	20¼	15	30½	8¼
44	86	4 9	20	12½	30½	27	29¾	17	11⅞	7	10	8¾	8¼	5	16	27¼	13	22	16	31½	9
45	omitted	4 9	20½	12½	30⅝	29¾	32	19	12½	7	11	9¾	9½	5¾	16½	25	12	21½	15	31½	9¼
46		4 10½	21½	11½	30½	29	31	17¾	11½	6½	9⅞	9½	8½	5½	17	27½	12½	22	15	31½	9⅝
47		4 9	20¾	11½	28½	26	31	17¾	11½	7	9½	8¾	8⅝	5⅝	17	25½	12	21	15	29	9½
48		4 7¾	19½	11¾	29½	25¼	31½	18	11⅜	6¾	10¼	9	8¼	5	17	26¾	12	21½	15	30½	9¼

APPENDIX C (Females).

No.	Weight.	Height.	Size round head.	Round neck.	Round chest.	Round waist.	Round buttocks.	Round thigh.	Round calf.	Round ankle.	Round biceps	Round arm.	Round fore-arm.	Round wrist.	Length of spine.	Length of arm and hand.	From shoulder to elbow.	From shoulder to wrist.	From ankle to knee.	From ankle to hip.	Length of foot.
	lbs.	ft. ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
1	84	4 7½	19	10	26	25	34	19½	11½	6½	8½	8½	8	5	15	25½	11	20	15	32	8¾
2	88½	4 6	19¾	10½	26½	27½	33½	19¾	11¾	7½	9	9	8½	5½	16½	25½	11½	20½	15	30	8¼
3	96½	4 9	19½	10¾	29	27½	33	18½	12½	7½	9½	9½	8½	5	18½	25	11	20	15	30	8½
4	67	4 4	19½	9¾	25½	24½	30	17	10½	6½	7½	7½	7½	4¾	17½	24½	11	19½	13	27½	7¾
5	102½	4 10½	20½	11	31	29½	35	20½	12⅝	7½	10	9¾	8½	5¼	17	27	12	21½	16	31½	9½
6	88	4 6	19¾	11½	29	25	34	19	11½	6¾	9½	9	8	5	14	24	12	20½	15	30	8¼
7	78	4 5	19½	10¾	29	26½	30	17	10½	6½	9	8½	8	5½	19	24½	11½	19½	14	29	8
8	95½	4 7	20	11	29½	28	32	20	11½	7½	10	9½	7⅞	5	16½	26½	12	20¾	14½	30½	8½
9	88	4 8½	19	11	28	25½	33½	17½	10⅞	6¾	10	9	8½	5	18½	26	12	21¾	15	30	8
10	86¾	4 7½	20	10¾	28½	25½	33½	20½	11¼	7	9½	8¾	8	5½	18½	26½	12	21	15	30	8½
11	81	4 6	20½	10⅞	27¾	27¼	31¼	19	11½	6½	9¾	8⅞	8	5½	18½	25	12	20½	15	30	8¾
12	90	4 8½	19¾	11	28	30½	33	18½	10⅞	7½	9½	9¼	8½	5½	16¾	25½	12	20¾	15½	30½	8½
13	84	4 6½	19½	10½	26	Pregt.	33	16½	11	6¾	8⅞	8½	7½	5	18	24½	11	19½	14	28	8
14	117½	4 6½	20½	11¾	30	31½	39½	24½	14½	7¾	13⅜	12½	10	5½	16	24½	11	19	15	29½	7¾
15	104	4 10	19½	10¾	29½	30	34½	18½	11½	7	10⅞	10½	8⅞	5½	18	25	12	20½	16	32	8½
16	92	4 10	20¾	11½	30¾	26¾	34½	18	11¾	7	9¼	8¾	8½	5½	14	27	11½	20¾	14	32	9½
17	87	4 7¾	20	10	27	27½	33⅜	20½	12	7	9	9	7⅞	5	16	25	11½	20½	15	29½	8⅜
18	75	4 6	20	10½	26½	25¾	31¾	17¾	11	6¾	8¾	8¾	7	5	14	25½	11¾	20¼	14	29	8¼
19	88	4 6½	20½	11	29	31	35	18½	11½	7¼	9	8¾	7½	5½	14	26	11½	20½	14½	32	9¼
20	113½	4 9	20⅜	11½	30¾	31	38	21½	13	7¾	11½	10¾	9¼	6¼	18¾	27½	14	24	14½	30¾	8½
21	97½	4 7½	23½	11½	26	29	32	18½	12	7¾	11	10½	9	5½	15	24	11½	20¾	15	29¾	8¾
22	89½	4 7½	19	10½	28	27	33	17½	11	6½	8½	8⅜	7¾	5	19½	26	12	21	15	30½	8½
23	80½	4 7½	19¾	10	26	24	31½	16½	11	6¾	8¾	8½	8	5	18½	26	12	21¾	15½	30	8¾
24	92½	4 6½	20½	10½	29¼	24⅜	33	18½	12	6¾	10¼	9⅞	9	6	15½	23	10½	19	15	30	8
25	omitted.	4 7½	20½	11¾	33½	29	34½	20⅜	12½	7	11½	11½	9	5½	16	26	12	21¼	15	31	9⅜
26	omitted.	4 6½	20½	10¼	29	29½	35¼	20¾	11⅝	6½	10½	9½	8	5½	16	26½	12	21	15½	30	8⅝
27	85½	4 6½	20⅜	10½	29	26½	31¼	19	11½	6¾	9½	9	8	5	17¼	25½	12	22	15	29	8¼
28	100½	4 10	19½	11½	31	30½	34	18½	12⅜	7½	10½	10	9¼	6	16	26½	12½	22½	15	31½	8¼
29	omitted.	4 5½	19½	11½	30½	34	36½	22	11	7	10½	9¼	8½	5⅜	15½	24½	11	19½	14	29½	8¾
30	82	4 8	19½	10½	27½	25	33½	18	11½	7	9	8¾	8	5½	15	26½	12½	21	16	31½	8¼
31	91	4 8	19¾	10½	29¾	28	33	19½	11¾	7⅛	10¼	9⅞	8⅝	5⅞	14¾	27	12	21	15⅜	31	8½
32	89	4 8	19½	10⅜	29	27	32	18¾	12	7⅛	10	9½	8½	5½	15	26½	12½	22	15	29	8¾
33	91¼	4 8½	20	11	27¾	28½	35	19	12½	7½	9	8½	8	5	17	26	12½	21½	15⅝	30	8¾
34	97	4 5½	19¾	11	29	32	33	19	13½	7¾	11½	10	9	5½	16½	25½	12	21	15	29	8½

APPENDIX C (Females)—*continued.*

No.	Weight.	Height.	Size round head.	Round neck.	Round chest.	Round waist.	Round buttocks.	Round thigh.	Round calf.	Round ankle.	Round biceps	Round arm.	Round forearm.	Round wrist.	Length of spine.	Length of arm and hand.	From shoulder to elbow.	From shoulder to wrist.	From ankle to knee.	From ankle to hip.	Length of foot.
	lbs.	ft. ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
35	103	4 9½	20½	11½	29	27	36⅜	21	13	8	9½	9½	8½	5⅜	18	27½	13	23	17	34	9
36	omitted.	4 6½	21	10½	28½	29	35¼	20½	12½	7⅞	9¼	9½	8¼	5¼	16	24¾	12	21	15	30½	8½
37	110	4 6½	20	11	29	26½	34	19½	11¼	7⅛	10	9¼	8⅛	5	15	23½	10⅛	19	15	30	8⅜
38	103	4 7	20⅛	11¼	30	32	33⅛	18	11½	7	9¾	9	8½	5½	14	25	12	21	15	31	8½
39	100	4 11½	19½	11	28	27½	33	19¼	12	7¼	9⅞	9	8⅛	5⅛	19½	27¼	12	21¾	16¼	32	9⅜
40	127	4 5⅛	19⅜	11⅞	33⅜	33½	38	25	13⅞	7⅛	13¾	12⅛	10	5⅝	19½	24⅛	11⅛	19½	14⅞	29	8
41	105	4 7	20¼	11¾	30	29	36¼	22¾	13⅝	8¼	12⅛	11	10¼	5¾	16	26	12	21	16	31	8¾

Captain R. F. Taylor, late 15th Regiment, M.N.I., kindly afforded me much assistance in the preparation of these Tables.

APPENDIX D.

This Appendix consists of a long extract from a paper by Mr. J. E. Calder, descriptive of the Native Tribes of Tasmania, published in the "Journal of the Anthropological Institute," vol. iii, 1874, p. 7. The extract was introduced for the purpose of illustrating the many points of striking similarity, both in physical constitution and in culture, between the extinct Tasmanians and the Andamanese. But as the members of the Institute can readily refer to the back volume for the original paper, it has been considered unnecessary to reprint the extract in this place. It is proposed, however, to issue Mr. Man's papers in the form of a separate monograph, and the extract in question will then be printed in full.

APPENDIX E.

LIST OF ANDAMANESE WORDS USED AS ORDINALS.

	Of two.	Of three.	Of four.	Of five.	Of six.	Of any greater number than six.	Remarks.
1st (of two or more, as in a race)	*ō·tolá·(da)*[1] ...	*ō·tolà·(da)* ...	*ō·tolà·(da)* ...	*ō·tolá·(da)* ...	*ō·tolà·(da)* ...	*ō tolá·(da)*	[1] When reference is made to animate objects *á·rtonàu(da)* is often used.
2nd ,,	*tàrō·lo(da)*[4] ...	*mū·gu-chál(da)*[3]	*àrō·lo(da)*[2] ...	*àrō·lo(da)* ...	*àrō·lo(da)* ...	*àrō·lo(da)*	[2] Also used to denote "the next."
3rd ,,	...	*tàrō·lo(da)* ...	*mū·gu-chál(da)*	*mū·gu-chál(da)*	*mū·gu-chál(da)*	or *ō·torá·la-jà·tngal(da)* / *ō·toyō·lo-dō·kngal(da)*	[3] Lit., between, or in the middle.
4th ,,	...	...	*tàrō·lo(da)* ...	*mū·gu-chál-tàrō·lo(da)*	*ō·totī·r-(da)*		[4] Lit., the last.
5th ,,	...	...	...	*tàrō·lo-(da)* ...	*ō·totī·r tàrō·lo (da)*		Speaking of a row or line of animate or inanimate objects:—
6th ,,	...	...	...	...	*tàrō·lo(da)*		The first, *ō·kotáp-*
Last but one	. .	...	...	...	...	*ō·totī·r-tàrō·lo (da)*	,, second, *tō koyō·lo-*
Last	...	...	...	...	...	*tàrō·lo(da)*	,, next, *tàrjana-*
							,, middle one, *mū·gu-chál-*

APPENDIX F.

SPECIMEN OF THE SOUTH ANDAMAN LANGUAGE.

1. *wai dōl .ôko-jū·wai ē·remtá·ga. dī·a ēr lōt ting*
indeed I (name of tribe) jungle-dweller. my village of name
.tô·lo-bòi·cho. jū·ru tek elarpá·lada. mō·da elawâ·ngaya būd tek totgô·ra
(name of village). sea from far. If daybreak at home from coast
len nàu·nga bē·dig til·ik dī·la len kâ·galke. med-àrdū·ru ō·gar jī·baba
to walking by perhaps evening in reach-will. we all moons several
ē·kan ēr len pòl·ike ñgâ tàrō·lolen jeg l'edâ·re àryô·to lī·a
own villages in live-do then afterwards dance for sake of coastmen of
pai·chalen yàu·gake. ô·na ū·cha nai·kan jeg-ī·kke â·rlalen īgal· l'edâ·re
midst-in go-do. when this like dance-go-do always barter for
mīn tō·yuke kich-ikan reg-dam·a, ēâ·te reg- kòi·ob, ēâ·te
things take-do namely pork (lit., pig-flesh), also pig's fat paint, also
râ·tà, ēâ·te jōb, ēâ·te châ·panga, ēâ·te kūd,
wooden-pointed arrows, also baskets, also reticules, also hand-nets for fishing,
ēâ·te râb, ēâ·te tâ·la-ōg, ēâ·te tâ·lag, ēâ·te pär·ēpa,
also necklaces of fine net-work, also white-clay, also hones, also sleeping-mats,
ēâ·te kâ·pa-jâ·tnga, âwē·h.
also leaf-screens, etcetera.

2. *med·a kâ·galnga bē·dig kīanwai· ō·tolâ· râ·mid-tō·yuke ōl-bē·dig*
we arriving on according-to-custom first sing-do and
kō·ike tàrō·lolen àrdū·ru mīn īgal·ke, ñgâ med-īkpô·r
dance-do afterwards all things barter-do, then we two (*i.e.*, some of us)
dü·tnga len igbâ·dignga l'edâ·re àryô·to lī·a pai·chalen
spearing to seeing for coastmen of (*i.e.*, with) possession
ō·dam len â·kangai·ke. mar·at-dil·u
bottom (of boat) in go in boat-do our rest (*i.e.*, the rest of us)
àryô·to-ngī·yi mit·iknga ē·rem-del·eke.
coastmen-friends accompanying in jungle-hunt-pigs-do.

3. *â·rla īkpô·r tàrō·lolen med·a mīn àrdū·ru, kich·ikan ē·la,*
days two (a few) afterwards we things all, such as pig-arrows,
ē·latâ, chô, wō·lo, bī·jma, yâ·dī-kòi·ob,
iron, knives, adzes, bottles, turtle-unguent (red paint made with turtle-fat),
yâ·dī-dam·a, ô·do, chī·di, gar·en, rē·keto-tâ,
turtle-flesh, nautilus-shells, *Pinna* shells, *Dentalium octogonum Hemicardium unedo*
âwē·h, īgal·nga len ô·rok yâ·te en·inga-bē·dig chē·lepâ·ke ñgâ
etcetera, bartering in received which having-taken take-leave-do then
wī-jke.
return (home).

4. *ignū·rum àryô·to len (â·rlaya) ô·ko-del·enga tek, ōl-bē·dig lō·binga tek,*
Just as coastmen to (always) hunting by, and poling by
ōl-bē·dig yát-dil·u tek eb·a-kâ·chya â·kà-wē·lab yā·bada, châ
and means-rest (*i.e.*, other means) by ever food-difficulty not so
met ē·rem-tâ·ga len bē·dig wâb dil·u-rē·atek yât àrdū·ruda.
we jungle-dwellers to also season every food all (sorts).

5. *med-ē·rem-tâ·ga àrdū·ru gū·mul ya ē·kan būd len â·rtiteg·ike ō·gun*
We-jungle-men all rainy season during own homes in remain only

râp-wâb len yūm pī·tainga l'edâ·re ēr-tāl·ke, mat ngī·ji àrdū·ru
fruit-season in rain absence because-of pay-visits-do our friends all
igbâ·dignga l'edâ·re. ō·gar ū·batū·l an ikpô·r len med·a wī·jke ōtpäg·i
seeing because-of moon one or two in we return-home-do again
baï·la[1]-wâb len kaï·ta-ban[2] jū·ranga leb būd tek
(name of tree)-season in jack-fruit-seed burying for homes from
mat-tô-jī·alke. ō·gar ū·batū·l len ē·kan ēr lat wī·jke.
we shift-our-quarters-do. moon one in own villages to return-home-do.

6. *mit·ig-bū·dwa len àryô·to tek ē·rem-tâ·ga at-ū·baba*
Our-tribesmen among coastmen from (than) jungle-men numerous
.bâ·rlâ·kàbīl tek .tô·lo-bòï·cho bō·diada dō·na ē·rem koktâ·r len
(name of village) than (name of village) large but jungle interior in
.tô·lo-bòï·cho tek ēr dō·ga bō·diada mē·tat būd àryô·to lī·a būd tek
(name of village) than villages many large our huts coastmen of huts than
châ·nagda tâ·lik jī·baba med·a gō·i tē·pike yā·ba.
large years many we fresh thatch-do not.

7. *tâ·lik ū·ma len med-àrdū·ru ē·kan ē·kan ēr lag·iba yât dō·gaya ô·roke.*
Year whole in we all own own villages near food plenty find-do.
ñgâ·tek-ñgâ·tek yât tē·pnga bē·dig mē·tat dū·ruma(da). med·a ōko-jär·anga
now and then food getting for for us sufficient. we constantly
kō·ike ōl-bē·dig râ·mid-tō·yuke.
dance and sing.

8. *ô·na mē·tat baraï·j len ū·chin ō·kolike ñgâ med-àrdū·ru būd-*
When our village in any one die-does then we-all camping-ground
l'àrlū·a len jā·lake. kâ·to chàng-tô·rnga[3] an dar·anga[3] len ekâ·ra naï·kan ō·gar
vacant to migrate. there hut or in custom like moons
īkpô·r pòl·ike, tàrō·lolen tâ ô·roknga bē·dig t'ī-tô latnga[4] len
few (lit., two) live-do, afterwards bones obtaining on tears-shedding (dance) for
.tô·lo-bòï·cho lat wī·jke.
(name of village) to return (home).

9. *mō·da ō·kolinga yā·balen med-ē·rem-tâ·ga lī·a baraï·j len at-jang·gī*
If dead without we jungle-dwellers of villages in old persons
lig·ala bēdig ârlalen pòl·ike. ō·gun râp-wâb len mē·tat paï·chalen atpail
children also always live. only fruit-season in as with women
i-gâ·tnga-bē·dig bar·mike kī·nig ō·llàrdū·ru at-jang·gī
paying-visits-for pass-night-do-away-from-home otherwise they-all old people
lig·ala naï·kan ē·kan baraï·j len bū·duke.
children like own villages in live-do.

10. *gū·mul len reg-del·enga l'edâ·re mat bū·la ij·i-lō·inga â·rla īkpô·r*
Rainy-season in pig-hunting because of we men often days few
bar·mike.
pass-night-do-away-from-home.

11. *med-ē·rem-tâ·ga àryô·to naï·kan â·rla-rē·atek jā·langa lī·a kīanwaï·*
We-jungle-people coastmen like constantly migrating of custom
yā·ba l'edâ·re mòl·òichik â·rlalen mē·tat bē·ra ōl-bē·dig â·kà-kī·chal lag·iba
not because of we always our rubbish and food-refuse near
kô·rke yā·ba, kīanchâ· mē·tat baraï·j len ōt-àu jā·bag yā·bada.
scatter not therefore our villages in smell bad not.

[1] *Terminalia procera*, which flowers about the middle of May.
[2] *Artocarpus chaplasha.*
[3] *Vide* Part I, "Habitations," paragraphs 3 and 4, for description of these varieties of huts.
[4] *Vide* Part II, "Death and Burial," paragraph 7.

12. *mē·tat àryô·to len bē·dig baraiːj ïkpô·r kât·o òl·òichik ij·i-lō·inga*
Our coast people among even villages few there they often
ō·gar ïkpô·r pòl·ike, ar·at-dil·u ō·ko-jär·anga jā·lake.
moons few dwell-do, their rest (*i.e.*, the rest of them) constantly migrate.

13. *med-ē·rem-tâ·ga ōl-bē·dig àryô·to lī·a ēr lag·ila*
Us jungle dwellers and coast-dwellers of villages near
būd-l'â·rtâm dō·gada. jū·ru l'igrâ·klik len â·rlaya ē·rem tô boda dō·na ē·rem
kitchen-middens many sea vicinity in always jungle dense, but jungle
koktâ·r len tô·bo yā·ba.
middle in dense not.

14. *.â·kà-.ked·e lī·a ē·rem koktâ·r len lī·rnga-bedig wai dōl*
(name of tribe) of jungle middle in going indeed I
ē·rem-tâ·ga at-ū baba igbâ·digre. med·a lū·ake aū·a kâ·to mardū·ru tek
jungle-dwellers numerous see-did. we consider that there us-all than
at-ū·baba. ē·rem len dılu-rē·atek chàuga-tâ·banga l'ī·dal tek
numerous. jungle in everywhere ancestors (this side of the Deluge) time since
tinga-bā bē·ringa. wai dōl â·chitik .bō·jig-ngī·ji àrdū·ru
paths (lit., roads small) good. indeed I now (name of tribe) all
igbâ·digre, it·ig bū·dwa dī·rap-tek yabā·da.
have seen, their tribesmen now-a-days few.

15. *med-àrdū·ru .â·kà.bō·jig-yâ·b ōl-bē·dig .â·kà-.kôl lī·a kīanwai· īdai·ke;*
We all (name of tribe) and (name of tribe) of customs know-do
ônt ekâ·ra mak·at pâ·ra; et bē·dig .mô·ko-jū·wai nai·kan
their customs ours similar; among-them also us (name of tribe) like
àryô·to ōl-bē·dig ē·rem-tâ·ga. kâ·to bē·dig ē·rem-tâ·ga ō·gar jī·baba
coast people and jung'e people. there also jungle-dwellers moons several
dīn len ō·ko-jär·anga bū·duke ē·kan ē·kan būd len bē·dig
heart-of-jungle in habitually dwell-do own own encampment in also
â·rtiteg·ike. .âkà-.bō·jig-yâ·b lī·a dīn kē·tia l'edâ·re kâ·to
remain-do. (name of tribe) of heart-of-jungle small because of there
ē·rem-tâ·ga yabā·da.
jungle-dwellers few.

APPENDIX F(*a*).

PHILOLOGICAL HARP.[1]

	Denoting	Near.	Remote.	Interrogative.	Relative.	Correlative.
		This, *ā·cha-*	That, *ō·lla...*	Who {*miy·a-* / *miy ola*}	Who / Which } *á·te-*	That same, *ōl-bē·dig*
				Which, *tenchá·-*	(In construction *yá·te-*)	
1	Time	Now, *á·chatik*	Then, *dchī·baiya*[4] ... Then (indef. past tense), *dchin·baiya*	When, *tain-*	When, *ó·na-* ... .. At such time as, *kian-ĕrū·batik*	Then, *ñgâ* At the same time, *kich·ikan*
2	Place	Here {*kā·re-* *kā·ran-* *kā·man-* *kam-* *kā-*} ...	There {*kā·to-, t·tan-* *ū·chumen*[5] *ū·chum*[5]}	Where, *tān-*	Whenever, *mī·n-ya* ...	There, *ōl-bē·dig-ya*
3		Hither, *kech-*	Thither, *kā·tik-*	Whither, *tekarichá·-* ..	Whither, *mīn len* ..	Thither, *ig*
4		Hence {*ū·chak*[2] *kā·ran-tek-* *kā·tik*[3]} ...	Thence {*kā·to-tak* / *ū·chumek*} ...	Whence {*tekarichá·-tel* / *mich·ima-tik*}	Whence, *mīn tek...* ...	Thence *ōl-bē·dig tek*
5	Manner	Thus, *kian-á·ri-* ...	In that way, *chá·ra-* ...	How, *kichikachá·-* ...	As, *ignū·rum-*	So, *chá-*
6	Likeness	Like this, *ā·cha-nai·kan*	Like that {*ōl-nai·kan* / *kā·to-nai·kan*}	Like what, *kich·ika-* ...	Like which {*kāū·ba-* / *kich·ikan-*}	Like the same {*ū-chuba-* *kich·ikan-* *kich·ikan-nai·kan*}
7	Quantity	This much or so much {*kian-wai·-* *kī·ra-* *kai·*}	That much, *ū·chatū·n-* ...	How much, *tantū·n-* ...	As much[6]	So much[6]
8	Number	This many, *kianchai·a-* ...	That many, *ū·chīchātū·n-*	How many {*kich·ikan-tūn-* / *kich·tk-*}	As many[6]	So many[6]

[1] This scheme is taken from Forbes's well-known Hindustani Grammar (p. 68).
[2] Probably abbreviated from *ū·cha tik* (lit., this from).
[3] Probably abbreviated from *kā·re tik* (lit., here from).
[4] In reference to a past period.
[5] Generally used in an indefinite sense, signifying "thereabout"; also when pointing towards an object partly hidden and not easily discernible.
[6] Hitherto unascertainable.

APPENDIX G.

THE SEVEN FORMS OF THE POSSESSIVE PRONOUNS IN RELATION TO PARTS OF THE BODY (HUMAN AND ANIMAL).

I.

dōt ..	*my* ..	chē·ta-, *head;* mūn-, *brain;* yâ-, *occiput;* kâ·kà-, *scalp;* lō·ngota-, *neck;* lâ·pta-, *nape;* chàl·ma-, *chest;* â·wa-, *lung;* nē-, *prostate gland;* tū·lēpo-, *phlegm;* kūg-, *heart* (*the seat of the affections and passions*), *the bosom;* kū·ktà-ban·a-, *heart* (*the organ*).
ngōt ..	*thy* ..	
ōt	*his* ..	
l'ōt.. ..	*—'s* ..	
mō·tot ..	*our* ..	
ngō·tot ..	*your*..	
ō·tot ..	*their*	
l'ō·tot ..	*—s'* ..	

Ex.—ōt chē·ta bō·dia-. *His head is large.*
His head large.

II.

dōng ..	*my* ..	kô·ro-, *hand, or finger;* kô·ro-mū·gu-châl-, *large* (*lit., middle*) *finger;* ī·ti-pīl-, *little finger;* kô·ro-dō·ga-, *thumb;* el·ma-, *palm of hand,* also *sole of foot;* tô·go-, *wrist;* kū·tur-, *knuckle;* bō·do-, *nail of finger,* or *toe;* pâg-, *foot;* rō·koma-, *toe;* tū·chab-, *large toe;* ī·lam-, *small toe;* gū·chul-, *heel;* târ-, *ankle;* châg-, *kidney;* tâ·banga-, *small intestine;* tâ·ga-, *peritoneum.*
ngōng ..	*thy* ..	
ōng.. ..	*his* ..	
l'ōng ..	*—'s* ..	
mòi·ot ..	*our* ..	
ngòi·ot ..	*your*	
òi·ot- ..	*their*	
l'òi·ot ..	*—s'* ..	

Ex.—dōng kô·ro ngōng tek kē·tia-. ***My hand is smaller than thine.***
my hand thy from (*than*) *small.*

III.

dâ·ka ..	*my* ..	bang-, *mouth;* dē·liya-, *palate* (*of mouth*); â·dal-, *chin;* pai-, *lip;* pai·la-pīd-, *moustache;* ô·rma-, *throat;* ē·tel-, *tongue;* del·ta-, *gullet;* ô·rma-bā-, *windpipe;* ē·kib-, *jaw-bone;* ē·kib-pīd-, *beard;* ted·imo-, *uvula;* gō dla-, *collar-bone;* châ·ga-, *side;* tū·bal-, *saliva;* chai·ad-, *breath.*
ngâ·kà ..	*thy* ..	
â·kâ ..	*his* ..	
l'â·kà ..	*—'s* ..	
mak·at ..	*our* ..	
ngak·at ..	*your*	
ak·at ..	*their*	
l'ak·at ..	*—s'* ..	

Ex.—kâ·to .bòi·goli l'àrdū·ru l'ak·at ē·kib-pīd lâ·panga-.
There European all their beard long.
All those Europeans have long beards.

IV.

dab	*my* ..	chàu-, *body;* gū·dur- *and* lân-, *back;* gō·rob-, *spine;* pō·dikma-, *shoulder-blade;* pai·cha-, *thigh* (*also lap*); pē·ke-, *groin;* châ·lta-, *skin;* châ·lta-dam·a-, *calf of leg;* kō·pa-, *elbow;* kō·pa-dam·a-, *fleshy part of fore-arm;* kū·rupi-dam·a-, *fleshy part of upper arm;* lō-, *knee;* â·pita-, *hough;* pâ·retâ-, *rib;* â·pa-chàu-, *belly* (*abdominal walls*); ēr-, *navel;* ū·pta-, *stomach proper;* jō·do-, *entrails, bowels;* jī·ri-,[1] *supra-renal fat and omentum;* mūg-, *liver;* pī·lma-, *spleen;* ī·jnga-, *uterus;* â·wa-, *arm-pit;* yī·lnga-, *tendon Achilles;* nē·ma-, *gall-bladder.*
ngab	*thy* ..	
ab	*his* ..	
l'ab	*—'s* ..	
mat	*our* ..	
ngat	*your*	
at	*their*..	
l'at	*—s'* ..	

[1] For a description of the *reg-jī·ri-gū·mul-*, *vide* Part II, "Initiatory Ceremonies," paragraphs 15–17.

V.

dig (*or* di) ..	*my* ..	dal-[1] *or* dòl-,[1] *eye*; dal àr pīd-,[1] *or* dòl àr pīd-,[1] *eye-lash*; dal ōt ēd-,[1] *or* dòl ōt ēd-,[1] *eyelid*; pū nyur-, *eyebrow*; mŭ·gu-, *face* (*also forehead*); pū·ku-, *ear*; chô·ronga-, *nose*; tī·mar-, *temple*; âb-, *cheek*; âb-pīd-, *whiskers*; tô·go-, *shoulder*; tūg-, *tooth*; gūd-, *arm*; kū·rupi-, *upper arm*; kô·pa-, *fore-arm*; gô·ra-, *biceps*; kâm-, *breast*; kâm l'ōt chē·ta-, *nipple of breast*; dē·riya-, *gum*; t'ī-, *tear*.
ngig (*or* ngi) ..	*thy* ..	
ig (*or* i) ..	*his* ..	
l'ig (*or* l'i) ..	—'*s* ..	
mit·ig (*or* mi·ti)	*our* ..	
ngit·ig (*or* ngit·i)	*your*	
it·ig (*or* iti) ..	*their*	
l'it·ig (*or* l'iti)	—*s*' ..	

Ex.—ôl ab-gôra dō·gada, ig gô·ra igbâ·di! *He is very strong; see his biceps!*
He strong very, his biceps see!

VI.

dar	*my* ..	châg-, *leg*; chô·rog-, *hip*; ē·te-, *loin*; mäl·wit-, *large intestine*; kòl·am-, *mesentery*; gū·dwin-, *os coccygis*; ū·lu-, *urine*; ū·lu lîa èr-, *bladder* (ër = *abode*); ô·ta-, *testicle*; tô-, ô·no-, *and* dam·a-, *buttocks*; mū·ga-, *rectum*; tū·mur-, *anus*.
ngar	*thy* ..	
ar	*his* ..	
l'ar	—'*s* ..	
mar·at ..	*our* ..	
ngar·at ..	*your*	
ar·at	*their*	
l'ar·at	—*s*' ..	

Ex.—mar·at châg-, *our legs*.

VII.

dô·to	*my* ..	kī·nab-, *waist*.
ngô·to ..	*thy, your*	This appears to be the only part of the body with which this form is used.
ô·to ..	*his, their*	
l'ô·to ..	—'*s*, —*s*' ..	
mô·to	*our* ..	

N.B.—In the case of the following words, the possessive adjective peculiar to the part referred to is taken:—pīd-, *hair*; ēd-, *skin*; tâ-, *bone*; tī-, *blood*; mū·rudi-, *gore*; gū·mar-, *sweat*; yī·lnga-, *vein, muscle*; wai·nya-, *cuticle*; mūn-, *pus*; dē·kia-, *pulse*.

Ex.—mō·tot pīd-, *the hair of our heads*;
ngak·at ēd-, *the skin of your lips*;
dig tâ-, *the bone of my arm*;
ngar tī-, *the blood of thy leg*;
&c.;

i.e., the above would be understood to represent mō·tot chē·ta pīd-; ngak·at pai ēd-; dig gūd tâ-; ngar châg tī-.

[1] These words generally take the abbreviated form, *di*, *ngi*, &c.

APPENDIX H.

LIST OF *Proper Names*, TOGETHER WITH A LIST OF THE "*Flower*" *Names* BORNE BY YOUNG WOMEN DURING MAIDENHOOD, AND UNTIL THEY BECOME MOTHERS, AND A LIST OF THE VARIOUS *Seasons*.

Proper names (*common to both sexes*).		"Flower" name.	Name of tree (or insect) in season.	Names of the various minor seasons.	Names of the principal seasons.	Remarks.
.bal·ēa	.kàt·iola	.chī·lipa ...	lē·kera-	lē·kera-wâb-[1] ...	pà·par-, also pà·par-wâb-	The "*pà·par-*" commences about the middle of November, and ends about the middle of February. It comprises the *cool season*.
.bō·ra	.lō·ra		chī·lip-	chī·lip-wâb- ...		[1] "*wâb*" signifies "season."
.bē·rebi	.lī·pa	.mō·da ...	pá-...	pá-wâb-		
.bī·a	.lō·kola		jór-	jór-wâb-		
.bī·ela	.mē·ba	.ó·ra	ó·ro-	ó·ro-wâb-		The "*yē·re-bō·do-*" comprises the *summer and autumn* of the year. Honey is abundant at the commencement of this season, during the whole course of which the principal fruit trees are in bearing. This season lasts about three months, *viz.*, till about the middle of May.
.bī·ra	.mē·bola	.jī·dga ...	jī·dga- .	jī·dga-wâb- .		
.bī·rola	.ñyō·ngula		tá·tib-	tá·tib-wâb- ...	yē·re-bō·do-, also vâp-wâb-[2]	
.bū·lbula	.niá·lī	.yē·re... .	yē·re-	yē·re-wâb- ... [3]		[2] Lit., *season of abundance*.
.bū·rla	.pà·rila		bá·ja-	bá·ja-wâb- ...		[3] This period is called "*lad·a-chàu-*" (dirty body) owing to their practice of smearing their persons with the sap of a plant (*jī·nu-*) when engaged in removing a honeycomb from a hive swarming with bees.
.bū·rñga	.pō·tya	.pá·taka	pá·tak-	pá·tak-wâb- ...		
.chó·rmila	.pō·wiola	.bal·ya	bai·la-	bai·la-wâb- ...		
.chē·tla	.pū·nga	.rē·che ...	rē·che-	rē·che-wâb- ...		This season embraces the (4) *tá·la-tòng-dē·reka-* (lit., *fresh foliage*) or *spring*, and (5) *gū·mul-wâb-*. The former lasts about 3½ months, viz., till about the close of August. It comprises not only the Spring but the *first half* of the *rainy monsoon*. The latter (*gū·mul-wâb-*) lasts about 2½ months, viz., till about the middle of November, and comprises the *latter half* of the *rainy monsoon*. Among the articles of food eaten at this season are (6) the *bū·tu-* (a slug found in rotten logs of Gurjon wood) and (7) the *òi·yum-* (larva of the Great Capricornis beetle). The tails of the former are broken off and thrown away, hence *tó·pnga-* (breaking off).
.dó·ra	.rī·a		chá·dak-	chá·dak-wâb- .. [4]		
.gō·lat	.rī·ela	.chá·gara	chá langa- ...	chá·la nga-wâb- ...		
.ī·ra	.tó·tòl	.chār·apa ...	bū·tu-[6]	tó·pnga-wâb- ... [5]		
.ī·rola	.tū·ra		chá·rap-	chá·rap-wâb- ...		
.jār·o	.wō·i	.chen·ra ...	òi·yum-[7]	òi·yum-kō·pnga-wâb-		
.jō·ptola	.wòi·chola		chen·ara-... ...	chen·ara-wâb· ...		
.ka·la	.wō·loga					
.küt·ya	.yē·ga	.yū·lu ...	rár-	rár-wâb-		
			yū·lu-	yū·lu-wâb- ...		

APPENDIX I.

List of Terms indicating various Degrees of Relationship.

my father (male or female speaking) ..	*dab mai·ola; dab chá·bil-; dar ō·dinga-.*
my step-father „ „ ..	*dab chá·bil-.*
my mother „ „ ..	*dab chá·nola; dab ē·tinga-; dab wē·jinga-; dab wē·jeringa-.*
my step-mother „ „ ..	*dab chá·nola.*
my son (if under 3 years of age, either parent speaking)	*dī·a ô·ta-.*[1]
my son (if over 3 years of age, father speaking)	*dar ō·dire; dar ō·di-yá·te-.*
my son (if over 3 years of age, mother speaking)	*dab ē·tire; dab ē·tiyá·te-; dab wē·jire; dab wē·ji-yá·te-; dab wē·jerire; dab wē·jeri-yá·te-.*
my daughter (if under 3 years of age, either parent speaking)	*dī·a ká·ta-.*[1]
my daughter (if over 3 years of age, either parent speaking)	*dī·a bā-.*
my daughter (if over 3 years of age, father speaking)	*dar ō·dire-pail-; dar ō·di-yá·te-pail-.*
my daughter (if over 3 years of age) mother speaking)	*dab ē·tire-pail-; dab ē·ti-yá·te-pail-; dab wē·jire-pail-; dab wē·ji-yá·te-pail-; dab wē·jerire-pail-; dab wē·jeri-yá·te-pail-.*
my grandson (either grand-parent speaking)	*dī·a bā·lola.*
my brother's grandson (male or female speaking)	
my sister's grandson (male or female speaking)	
my grand-daughter (either grand-parent speaking)	*dī·a bā·lola-pail-.*
my brother's grand-daughter (male or female speaking)	
my sister's grand-daughter (male or female speaking)	
my elder brother (male or female speaking)	*ad-en tô·bare; ad-en tô·banga-; ad-en tô·kare; ad-en tô·kanga-.*
my elder sister (male or female speaking)	*ad-en tô·bare-pail-; ad-en tô·banga-pail-; ad-en tô·kare-pail-; ad-en tô·kanga-pail-.*
my younger brother (male or female speaking)	*dar dō·atinga-; dá·kà kám-; dar wē·jinga-; dar wē·jeringa-.*
my younger sister (male or female speaking)	*dar dō·atinga-pail-; dá·kà kám-pail-; dar wē·jinga-pail-; dar wē·jeringa-pail-.*
my elder brothers (male or female speaking)	*am-et tô·bare; am-et tô·banga-; am-et tô·kare; am-et tô·kanga-.*

[1] *Vide* Appendix K.

my younger brothers (male or female speaking)	*mar·at dō·atinga-; mak·at kâm-; mar·at wē·jinga-; mar·at wē·jeringa-.*
my elder sisters (male or female speaking)	*am-et tō·bare-pail-; am-et tō·banga-pail-; am-et tō·kare-pail-; am-et tō·kanga-pail-.*
my younger sisters (male or female speaking)	*mar·at dō·atinga-pail-; mak·at kâm-pail-; mar·at wē·jinga-pail-; mar·at wē·jeringa-pail-.*
my father's brother (elder or younger)	*dī·a mai·a.*
my mother's brother „ „	
my father's sister's husband	
my mother's sister's husband	
my father's father's brother's (or sister's) son	
my mother's mother's brother's (or sister's) son	
my husband's grandfather	
my wife's „	
my wife's sister's husband (if elder) ..	
my husband's sister's husband (if elder)	
my father's sister (elder or younger) ..	*dī·a chá·nola.*
my mother's sister „ „ ..	
my father's brother's wife	
my mother's brother's wife	
my grandmother, my grand-aunt ..	
my father's father's sister's daughter	
my mother's mother's sister's daughter	
my husband's grandmother	
my wife's „	
my husband's sister (if senior and a mother)	
my elder brother's wife (if a mother) ..	
my brother's son (male or female speaking)	*dar bā-.*
my sister's son (male or female speaking)	
my half-brother's (or half-sister's) son, or my first-cousin's (male or female) son (male or female speaking) ..	
my brother's son's wife (male or female speaking)	*dar bā lai īk-yâ·te-.*
my sister's son's wife (male or female speaking)	
my half-brother's (or half-sister's) son's wife, or my first cousin's (male or female) son's wife (male or female speaking)	
my brother's daughter (male or female speaking)	*dar bā-pail-.*
my sister's daughter (male or female speaking)	
my half-brother's (or half-sister's) daughter, or my first-cousin's (male or female) daughter (male or female speaking)	
my brother's daughter's husband (male or female speaking)	*dar bā lâ īk-yâ·te-.*
my sister's daughter's husband (male or female speaking)	

my half-brother's (or half-sister's) daughter's husband, or my first-cousin's (male or female) daughter's husband (male or female speaking)	*dar bā lá īk-yá·te-.*
my father's brother's son, if older (male or female speaking)	*dar châ·bil entó·bare; dar châ·bil entó·kare.*
my father's sister's son, if older (male or female speaking)	
my mother's brother's son, if older (male or female speaking)	
my mother's sister's son, if older (male or female speaking)	
my elder half-brother, whether uterine or consanguine (male or female speaking)	
my father's brother's son, if younger (male or female speaking)	*dar dō·atinga-.*
my father's sister's son, if younger (male or female speaking)	
my mother's brother's son, if younger (male or female speaking)	
my mother's sister's son, if younger (male or female speaking)	
my younger half-brother, if uterine (male or female speaking)	*dâ·kà kâm-.*
my younger half-brother, if consanguine (male or female speaking) ..	*dar dō-atinga-; dar wē·jinga-; dar wē·jeringa-.*
my father's brother's son's wife, if older (male or female speaking) ..	*dar châ·bil entó·bare lai īk-yá·te-.*
my father's sister's son's wife, if older (male or female speaking)	
my mother's brother's son's wife, if older (male or female speaking) ..	
my mother's sister's son's wife, if older (male or female speaking)	
my elder half-brother's wife, whether uterine or consanguine (male or female speaking)	
my father's brother's son's wife, if younger (male or female speaking) ..	*dar dō·atinga lai īk-yá·te-.*
my father's sister's son's wife, if younger (male or female speaking) ..	
my mother's brother's son's wife, if younger (male or female speaking) ..	
my mother's sister's son's wife, if younger (male or female speaking) ..	
the wife of my uterine half-brother, if younger (male or female speaking) ..	*dâ·kà kâm lai īk-yá·te-.*
the wife of my consanguine half-brother, if younger (male or female speaking)	*dar dō·atinga-* / *dar wē·jinga-* / or *dar wē·jeringa-* — *lai īk-yá·te-.*
my father's brother's elder daughter (male or female speaking)	*dī·a châ·nol à-entó·ba yá·te-.*
my father's sister's elder daughter (male or female speaking)	
my mother's brother's elder daughter (male or female speaking)	
my mother's sister's elder daughter (male or female speaking)	

my elder half-sister, whether uterine or consanguine (male or female speaking)	*dī·a châ·nol à-entô·ba yâ·te-.*
my father's brother's younger daughter (male or female speaking)	*dar dō·atinga-pail-.*
my father's sister's younger daughter (male or female speaking)	
my mother's brother's younger daughter (male or female speaking)	
my mother's sister's younger daughter (male or female speaking)	
my younger half-sister, if uterine (male or female speaking)	*dâ·kà kâm-pail-.*
my younger half-sister, if consanguine (male or female speaking)	*dar dō·atinga-pail-; dar ē·jinga-pail-;* or *dar wē·jeringa-pail-*
my father's brother's elder daughter's husband (male or female speaking)..	*dī·a châ·nol à-entô·ba yâ·te lâ īk-yâ·te-.*
my father's sister's elder daughter's husband (male or female speaking)..	
my mother's brother's elder daughter's husband (male or female speaking)..	
my mother's sister's elder daughter's husband (male or female speaking)..	
my elder half-sister's husband, whether uterine or consanguine (male or female speaking)	
my father's brother's younger daughter's husband (male or female speaking) .	*dar dō·atinga-pail lâ īk-yâ·te-.*
my father's sister's younger daughter's husband (male or female speaking)..	
my mother's brother's younger daughter's husband (male or female speaking)	
my mother's sister's younger daughter's husband (male or female speaking)..	
the husband of my uterine half-sister, if younger (male or female speaking)	*dâ·kà kâm pail lâ īk-yâ·te-.*
the husband of my consanguine half-sister, if younger (male or female speaking)	*dar dō·atinga-pail-* / *dar wē·jinga-pail-* / or *dar wē·jeringa-pail-* — *lâ īk-yâ·te-.*
my grandfather (male or female speaking)	*dī·a mai·ola.*
my grandfather's brother (male or female speaking)	
my grandmother's brother (male or female speaking)	
my elder sister's husband (male or female speaking)	
my husband	*ad īk-yâ-te-.*
my wife	*dai īk-yâ·te-.*
my husband's father	*dī·a má·mola.*
my husband's mother	
my wife's father..	
my wife's mother	
my husband's elder brother	
my wife's brother (if older)	
my husband's sister's husband (if older)	
my wife's sister (if older[1] and a mother)	

[1] Otherwise her name would be employed.

my husband's brother's wife (if older)	*dī·a mâ·mola.*
my wife's brother's wife (if older) ..	
my husband's brother (if of equal standing)	*dī·a má ma.*
my wife's brother (if of equal standing)	
my son-in-law (male or female speaking)	*dī·a ótô·niya.*
my younger sister's husband (male or female speaking)	
my daughter-in law (male or female speaking)	*dī·a ó·tīn-.*
my husband's sister, if younger (male or female speaking)	
my husband's brother's wife, if younger (male or female speaking)	
my wife's brother's wife, if younger (male or female speaking)	
my step-son (either speaking)	*deb aden·ire.*
my step-daughter (either speaking) ..	*deb aden·ire-pail-.*
my adopted son „ „ ..	*dōt châ·tnga-.*
my adopted daughter „ „ ..	*dōt châ·tnga-pail-.*
my parents „ „ ..	*dab mai·ol-chân·ol.*
my foster-father „ „ ..	*dab mai ōt-châ·tnga-.*
my foster-mother „ „ ..	*dab chán ōt-châ·tnga-.*
the relationship subsisting between a married couple's fathers-in-law ..	*á·kà ya kât-.*
the relationship subsisting between a married couple's mothers-in-law ..	
my husband's brother (if younger) ..	*dâ·kà bā-bā·la-.*
my younger brother's wife	*dá·kà bā-pail-.*
my wife's sister's husband (if younger)	*mar,* or (if a father) *mai·a.*
my husband's sister's husband (if younger)	
twins (whether of the same sex or not)	*abdī·dinga-.*
widow	*chán arlē·ba-.*
widower	*mai arlē·ba-.*

APPENDIX K.

LIST OF TERMS APPLIED TO MALES AND FEMALES FROM BIRTH TO OLD AGE IN ORDER TO INDICATE THEIR AGE, CONDITION, &c.

Males.

During the first year	*abdē·reka-*	*ō·ta-*[1]	The term *ablâ-panga-* (long) is applied to a boy who is tall for his age.
During the second year	*abkē·tia-*		
During the third and fourth years	*abdō·ga-*	*abli·ga-*[2]	Until the commencement of the probationary "fast" (as well as after its completion) he is called *bō·tiga-*.
From four till ten years of age	*àwal·aganga-* or *àwal·agare*		
During the eleventh and twelfth years	*â·kà·kâ·daka-*	*dâ·la-*	
From twelve to fifteen years of age (the ordinary "fasting" period)	*â·kà - kâ·daka - dō·ga-*		During such portion of this period as he "fasts" he is called *â·kà - yâb-*, or *â·kà-yā·ba-*.
After breaking the probationary "fast" (for first month)	*â·kà-gō·i-*	*abwâ·ra-*[3]	He now breaks the "fast," and is called *gū·ma* until he becomes a father.
From then till he becomes a father	*â·kà-gū·mul-*		He is addressed as *gū·ma* from the time of his breaking the "fast" till his wife's first pregnancy, when he becomes *mai·a*. Should he never have a child he is called *mai·a* a little later in life.
Single: bachelor only	*abwâ·ra-*		
Single: whether bachelor or widower	*kâ·ga-tō·go-*		
Bridegroom	*abdē·rebil-*		
Full grown (whether married or single)	*abwâ·ra-gō·i-*		
Newly married (during first few days only)	*arwē·red-* ; *ōng-täg·go·i-*		
Newly married (during first few months only)	*ūn-jâ·ti-gō·i-*		Only applied to young persons.
Married (while still without a child)	*ōng-täg-*[4]		While his wife is *enceinte* he is called *pīj-jā·bag-*.
Married (having had a child)	*châ·bil-* ; *châ·bil-chàu-* ; *mai a*		During the first two or three months after the death of his child he is called *mai·a ō·kolī·nga-*.
Married (more than once—not applied during widowhood)	*tarwâ·ki-*		
Widower	*mai-arlē·ba-*		
Old	*abjang·gi-* ; *abchó·roga-*		The *survivor* of an old couple who have been united since their youth is called *abrâ·ji-gō·i-*.
White-haired	*abtôl-*		

[1] Signifies testicle. [2] A child. [3] A bachelor.
[4] Their jungle-bed of leaves is called *täg-*.

Females.

During the first year ..	*abdē·reka-*[1]		The term *á·kà-tá·ng-* (tree) is applied to a girl who is tall for her age.
During the second year ..	*abkē·tia-*[1]	*ablī·ga-*[3]	
During the third and fourth years	*abdō·ga-*[1]		As in the case of males, both before and after the probationary "fast" she is called *bó·tiga-*.
From four till ten years of age	*àwal·aganga-*[1] or *àwal·agare*		
During the eleventh and twelfth years	*àryō·ngi-*		
From twelve till about sixteen years of age (her ordinary "fasting"[5] period)	*àryō·ngi-pō·i-*	*abjad·i-jōg-*[4]	She commences her "fast" during this period, and while so doing is called *á·kà-yáb-*, or *á·kà-yá·ba-*.
After breaking the probationary "fast" (for first month)	*á·kà-gō·i-*[1]		As soon as she attains maturity she is called *ūnlá·wi-*, or *á·kà-lá·wi-*, and then receives her "flower" name (*vide* Appendix H).
Spinster	*abjad·i-jog-*		
Bride	*abdē·rebil-pail-*		
Full grown: if unmarried	*abjad·i-jōg-gō·i-*		
Full grown: if married (but not yet a mother)	*ōng-täg-*;[6] *ablū·ga-*		
Full grown: if married (but with no child alive)	*ablū·ga-*		
Newly married (during first few days only)	*arwē·red*;[1] *ōng-täg-gō·i-*[1]		
Newly married (during first few months only)	*ūn-já·ti-gō·i-*;[1] *ōng-täg-*[1]		Only applied to young persons.
Married (while still without a child)	*ōng-täg-*[1]		While *enceinte* she is called *pīj-jā bag-*.
Married (having had a child)	*chá·nre*; *chân-chàu-*; *chän·a*; *chá·nola-*		During the first two or three months after the death of her child she is called *chä·na ō·kolī·nga-*
Married (more than once—not applied during widowhood)	*tarwá·ki-*[1]		
Widow	*chän-arlē·ba-*		
Old	*abjang·gi-*;[1] *abchô·roga-*[1]		
White-haired	*abtól-*[1]		

[1] In those cases in which the term is common to both sexes or ambiguity would otherwise exist, the word *pail-* (female) is added when a woman is referred to. Ex.: *ōng-täg-pail-*; *abtól-pail-*.

[2] Signifies the genitals of a female.

[3] A child.

[4] A spinster.

[5] As elsewhere explained (*vide* Part II, "Initiatory Ceremonies") this term is used merely to imply abstention, during a period varying from one to four or more years, from certain favourite articles of diet.

[6] Their jungle-bed of leaves is called *täg-*.

APPENDIX L.

LIST OF SOME OF THE TREES AND PLANTS IN THE ANDAMAN JUNGLES.

Andamanese name.	Botanical name.[1]	Remarks.
á·bnga- (*a*)	Dillenia pilosa.	
ain·ya-	Dipterocarpus alatus ..	(Burm.) *Kanyīn ngī.*
al·aba-	Melochia velutina ..	(*vide* Appendix B, item 66)
ám- (*a*) (*e*)	Calamus, sp. No. 1.	
á·para- (*d*) (*k*) .. .. Also *á·bad-*	Ptychosperma Kuhlii ..	
â·raga-	.. ..	(Hindi.) *Palawa.* (Burm.) *Bē·bia.*
â·rain- (*m*)	Dipterocarpus lævis ..	(Burm.) *Kanyīn byu-*, Gurjon oil tree.
bad·a- (*o*)	Rhizophora conjugata ..	(Burm.) *Byūma.*
bad·ar- (*a*)	Sometia tomentosa (?)	
bav·la- (*a*) (*b*)	Terminalia procera ..	(Burm.) *Bambway byu.*
bá·ja- (*y*)	Sterculia (? villosa) ..	(Burm.) *Sabu-bani.*
bá·lak-	.. .. ..	*Vide* Part II, "Religious Beliefs," paragraph 19.
bal·ya-		
bá·rat·a- (*c*)	Caryota sobolifera.	
bá·taga- (*a*)	Ceriops Candolleana ..	(Burm.) *Madamá.*
bē·la-	Natsatium herpestes.	
bē·ma-	Albizzia Lebbek (?) ..	(Burm.) *Kūk·ko.*
bē·rekád-	Glycosinis pentaphylla.	
bē·rewi-	Claoxylon affine (?)	
bī·bi-	Terminalia (? citrina).	
bī·riga-	Planchonia valida ..	(Burm.) *Bambway ngī.*
bī·rtát-		
bī·tim-	Sophora sp.	
bōl- (*v*)	.. ..	Ground rattan.
bō·ma-	Claoxylon sp.	
bō·rowa- (*u*)	Myristica longifolia ..	(Hindi.) *Jaiphal.* (Burm.) *Zâ·dipho.*
bō·to-kō·ko- (*a*)	Sabia (?)	
būb-	Ancistrocladus extensus (?)	
bū·kura- (*i*)	Diospyros (?) nigricans ..	Bastard ebony, or marble wood (superior variety).
būr-	.. ..	
bū·tu-	.. ..	Extensively used in the manufacture of arrows.
châb- (*a*)	.. ..	(Hindi.) *Badám.*
châ·dak-	Rubiaceæ.	
chāg·e-	Paratropia venulosa.	
chai-	.. ..	Bows made from this tree.

[1] It has been chiefly owing to the kind assistance afforded by Dr. G. King, Superintendent of the Botanical Garden, Howrah (near Calcutta), that I have been able to ascertain the botanical names of so many of the trees in this list.

Andamanese name.	Botanical name.	Remarks.
chœij- (*a*) (*b*)	Semecarpus anacardium	(Hindi.) *Bilâwa.*
châ·kan- (*b*)	Entada pursœtha.	
châ·langa- (*g*)	Pterocarpus dalbergioides	(Hindi.) *Ṭīsu.* (Burm.) *Padàuk.*
châm- (*j*)	Areca laxa of Hamilton (a variety of Areca triandra).	
châmti-	Cynometra polyandra.	
chàng·ta-	Calamus sp.	Leaves used in thatching huts, and for making the warning wreaths round a grave or deserted encampment.
châp-	Terminalia sp.	
châ·to-	Albizzia Lebbek (?) ..	(Hindi.) *Sīris.* (Burm.) *Tsīt.*
chàu·ga-yū·anga-	Hopea odorata	(Burm.) *Thingám-byū-.*
chē·nir-	Leea sambucina.	
chī·lib-	Diospyros densiflora (?)	
chō·ad-	.. ..	(Burm.) *Màukaràung.*
chō·bal-	Atalantia sp.	
chō·ngara- (*a*)		
chō·pa- (*a*)	Leguminosæ.	
chôb- (*a*)	Calamus sp. No. 2 ..	The fruit somewhat resembles a medlar in flavour.
chô·knga-	Goniothalamus Griffithii.	
chô·lij-	Hypolytrum trinervium.	
chôr- (*i*)	Celtis cinnamomea.	
dâ·kar-tâ·la-	Hydnocarpus (?) ..	(Hindi.) ? *Lâl chīni.* (Burm.) ? *Chándu.*
dē·debla-	Xanthophyllum glaucum.	
dōd-	Myristica Irya	Sometimes used for paddle making.
dō·gota- (*a*) (*f*)	Mimusops Indica (or ? littoralis)	(Hindi.) *Mōwa.* (Burm.) *Kapāli thit.*
dō·mto- (*p*)	Guettarda speciosa.	
dū·mla-	.. ..	(Burm.) *Fishūm.*
dū·ra-	Barringtonia racemosa.	
elētā·la-		
ē·mej- (*b*)	Terminalia bialata.	
eng·ara- (*a*)	.. ..	Wild plantain.
ē·repaid-tāt-	Strychnos nux vomica.	
gâ·cho-		
gad-	Calophyllum spectabile.	
gel·dim- (*a*)	Leguminosæ sp.	
ger·eng- (*n*)	Bombax malabaricum ..	(Hindi.) *Sembal.* (Burm.) *Dīdu.*
gū·gma-	Trigonostemon longifolius	Leaves used medicinally as a febrifuge.
ī·til- (*b*)	Pandanus (?)	
jâ- (*a*)	Gluta longipetiolata ..	(Burm.) *Thip-pyū.*
jā·la-	Rubiaceæ.	
jang·ma- (*a*)	Stephania hernandifolia.	

Andamanese name.	Botanical name.	Remarks.
jī·dga		
jī·ni- (*a*)	Alpinia sp.	(*vide* Part I "Medicine," para. 4, and Part III, "Food," para. 35.)
jór-	Odina Woodier	(Burm.) *Nubbhē.*
jū·laij- (*b*)	Dendrolobium umbellatum	
jū·mu- (*a*)..	? Bruquiera gymnorhiza *or* Rhizphora mucronata	(Burm.) *Byūbo.*
kâ·daka-	Ficus hispida.	
kai- (*a*)	Mangifera sylvatica ..	Wild mango.
kai·ta- (*a*) (*b*)	Artocarpus chaplasha ..	(Hindi.) *Kathar.* (Burm.) *Toung-peng.*
kâ·pa- (*a*) (*h*)	Hicuala (probably peltata)	
kār·ed- (*a*)..	? Sterculia (*or* Sanadera Indica)	The fruit contains a nut which after being sucked is broken, when the *shell* is eaten and the *kernel* thrown away.
kär·ega- (*a*)	Diospyros sp.	
kô·kan- (*r*)	Pajanelia multijuga.	
kôn- (*a*)	Diospyros sp.	
kô·rtâ·la-	Griffithia longiflora.	
kū·dnga-	One of the Rubiaceæ.	
kū·nra-	Dracontomelum sylvestre.	
lē·che-	Lactaria salubris ..	The fruit being large and round is often used as a moving target by being rolled along the ground or down a slope and shot at while in motion.
lē·kera-	Leguminosæ sp.	
lō-gaj- (*a*)	Angiopteris evecta.	
mâ·chal-	Atalantia sp.	
maū- (*x*)	Sterculia (?)	(Burm.) *Àuk yenzà.*
máng- (*a*) (*b*) (*l*).. ..	Pandanus Andamanensium.	(Hindi.) *Kēora.*
mô·nag-	Messua ferrea	(Hindi.) *ṭâl.* (Burm.) *Gangua.*
môt-	Heritiera littoralis.	
mū·twin- (*a*)	Anacardiaceæ.	
ngá·tia- (*a*)	Bruquiera sp.	
ñgē·ber- (*b*)	Cycas Rumphii.	
nyū·raimo-	Ficus sp. No. 1.	
ō·dag-	Eugenia sp.	
ō·dorma- (*a*) .. .		
ō·li- (*a*)	Ficus (probably macrophylla).	
ō·lma-	.. ..	(Burm.) *Thisunūwe.*
ô·ro-	Chickrassia tabularis ..	(Burm.) *Ngazu.*
ô·ropa- (*a*) (*b*) (*i*) ..	Baccaurea sapida ..	(Hindi.) *Khatta phal.* (Burm.) *Kanazo.*
ô·rta-tāt- (*a*) (*g*)	Uvaria micrantha.	
pâ- (*b*)	Semecarpus (?)	(Burm.) *Thikadoe.*

Andamanese name.	Botanical name.	Remarks.
pai·ma-	Clausena (probably lichii).	
pai·tla- (*b*)		
pâp-	Lagerstrœmia regina (? hypolenca)	(Burm.) *Pima.*
pâr-	Leguminosæ sp.	
pâ·ra-		
pá·rad-	Gramineæ.	
pâ·tag-	Meliosma simplicifolia ..	Leaves sometimes used as aprons by women (*vide dō·gota-*). The kernel of the seed is eaten.
pē·dag-		
pē·li- (*a*)	Gnetum scandens.	
pē·taing-	Memecylon parviflorum.	
pī·cha- (*i*)..	Diospyrus sp.	Bastard ebony, or marble wood (inferior variety).
pī·dga- (*w*)	.. ..	Common cane.
pī·lita-	Gnetum edule	Fibre extensively used (*vide* Appendix B, item 65).
pī·rij-	Afzelia bijuga.	
pī·ti-	Derris scandens.	
pó- (*t*)	Bambusa Andamanica.	
pór- (*a*)	Korthalsia (or Calamagaus) scaphigera.	
pō·rud-	probably Schmeidelia glabra	(Burm.) *Kimberlin.*
pŭ·a-	Bambusa..	Used for making the shaft of the turtle spear, and for poling canoes.
pŭ·lain- (*b*)	.. ..	(Burm.) *Ngá·zu* sp. No. 1.
pŭ·lia- (*b*)..	Mucuna sp.	
pŭ·lka-	Memecylon (probably capitellatum.	
pŭ·ta- (*b*)	Nipa fruticans	Dhunny leaf palm.
rá-	Dendrobium secundum.	
râb-	Phœnix sp.	(Hindi.) *Kajŭr.*
râr-	Eugenia (?)	(Hindi.) *Chandan.* (Burm.) *Tau-ngīm.*
ràu-	Ficus laccifera	(Hindi.) *Bargat.* (Burm.) *Ngiàu.*
rē·che-	Eugenia sp.	(Burm.) *Mai ámbu.*
reg lá·kà chàl-	Polyalthia Jenkinsii.	
rī·di-	.. ..	Used for making the shafts of the *rá·tà-*, *tī·rlēd-*, and *tó·lbōd-* arrows.
rīm- (*s*)	Celtis *or* Gironniera ..	(Burm.) *Tingám.*
rō·toin-	Syzygium Jambolanum.	
tá·langa-tāt-	Antitaxis calocarpa ..	(Burm.) *Gangua ngee.*
tâ·lapa-	Terminalia trilata (?) ..	(Hindi.) *Chūglam.* (Burm.) ? *Ngágu* sp. No. 2, or *Kyū na lin*

Andamanese name.	Botanical name.	Remarks.
tăn-.		
tâ·par-.	Erycibe coriaceæ.	
tâ·tib- (*a*) (*i*)	Croton argyratus (Blyth)	(Burm.) *Châunu.*
tī-		
tó·kal-	.. ..	(Burm.) *Kiâtalung.*
tól-..	Amomum dealbatum (*or* sericeum).	
tōp-	Barringtonia Asiatica.	
tó·ta-	.. ..	(Burm.) *Pyū.*
ūd- (*b*)	Menispermaceæ.	
ū·dala-	Pandanus verus.	
ūj- (*a*)	Tetranthera lancœfolia ..	{ (*vide* Appendix B, item 76.)
ūl-..	Carapa obovata	(Burm.) *Penlēong.*
ū·tura-	Maranta grandis (*or* Phrynium grande).	
wain·ya-		
wâ·nga-	Pterospermum acerifolium.	
wai·unga-	.. ..	{ (Hindi.) *Jungli saigon.* (Burm.) *Pânu.*
wī·lima-	Podocarpus polystachia..	(Burm.) *Thīt min.*
yá·rla-		
yâtig·i-	Rubiaceæ.	
yō·lba-	Anadendron paniculatum.	

Additional Notes.

(*a*) Fruit is eaten.
(*b*) Seed is eaten.
(*c*) Heart of the tree is eaten.
(*d*) Pulpy portion of spathe is eaten.
(*e*) Leaf stems used in manufacture of sleeping mats. Leaves used for thatching purposes.
(*f*) Leaves used by women as aprons (*ō·bunga-*) ; rotten logs used for fuel (see also "Superstitions," para. 8).
(*g*) Stem of this plant used for the frame and handle of the hand-net (*kūd-*) (*vide* Appendix B, item 20).
(*h*) Leaves used for thatching, for screens (*vide* Appendix B, item 74), for bedding, for wrapping round corpse, for packing food for journey, &c., and prior to cooking.
(*i*) Rotten logs used for fuel.
(*j*) Used in manufacture of the foreshaft of the *rá·tà-*, *tī·rlēd-*, *tó·lbōd-*, and *châm-* arrows (*vide* Appendix B, items 2, 3, 4, 8), and sometimes also the skewer.
(*k*) Leaves used for thatching and for bedding.
(*l*) Leaves used in the manufacture of articles of personal attire (*vide* Appendix B, items 25 and 28).
(*m*) The middle portion of rotten logs used for torches.
(*n*) Rarely used for making canoes.
(*o*) Used for adzes, sometimes for foreshafts of arrows, and for making children's bows.
(*p*) Leaves used for flooring of huts.
(*q*) Buttress-like slab roots used for making the sounding-boards employed when dancing.

(*r*) Used for making canoes.
(*s*) Resin used in manufacture of *kâ·ngatâ·bŭj-* (*vide* Appendix B, item 62).
(*t*) Used in making the *gōb-*, *kai-*, and sometimes the *tôg-* (*vide* Appendix B, items 82, 80, and 10).
(*u*) Generally used for making paddles, and the leaves for bedding.
(*v*) Used for making shaft of hog-spear.
(*w*) Used for making baskets, fastenings of adze, turtle-spear, torches (*tō·ug-*), and of bundles; also for suspending buckets, for stitching cracks in canoes, and in thatching.
(*x*) Used for making canoes; the resin is employed in making torches.
(*y*) Used for making canoes, pails, and eating trays.

APPENDIX M.

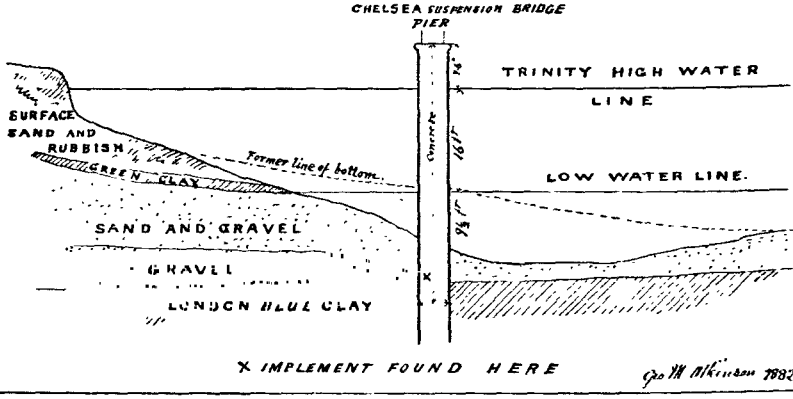
List of Shells commonly known to the Andamanese.

Andamanese name.	Scientific name.[1]	Remarks.
bad·a-ó la- (*a*)	Monodonta (? labeo).	
bad·gi-ó·la- (*a*)	Delphinula laciniata.	
*bē-..	Pecten (?) Indica ..	Scallop.
châ·pata- (*b*)	Pteroceras chiragra ..	Scorpion shell.
châu·ga lōt chŭ·kul- ..	Murex tribulus.	
chej- (also *chō·la-*) ..	Pinna (? squamosa) ..	Bouquet-holder shell.
chī·dı- (*b*)..	Pinna (?)	
chô·kotâ-	? Conus eburneus.	
chôrom- (*a*)	Scolymus cornigerus.	
chŭ- (*a*)	Murex (? palma-rosæ) ..	Rose-bud shell.
ē·la-	Perna ephippium.	
gar·en-ô·la- (*a*)	Turbo (?)..	Top-shell.
ī·na-ó·la- (*a*)	Nassa (? tœnia)	Dog-whelk.
jär·awa-ó·la- (*a*) .	Purpura Persica.	
jī·rka-ū-	Cyrena (?)	
jô·rol- (*b*)	Cerithidea telescopium.	
jū·ru-win lá·kà bang- ..	Solen vagina	Razor-fish.
kâ·mrŭj-	Trochus (? obeliscus).	
kâ·rada-	Area granosa.	
lī·do-	Turbo marmoratus ..	Is eaten by the *.bal·awa-* tribe only.
lī·ta- (*a*)	Cassis glaucus	Helmet-shell.
mäl·to- (*a*)	Venus (?)	
mâr·ed- (*a*) . ..	Venus meroe	Pattern-shot Venus.
mär·eno- (*a*)	Patella variabilis ..	Rock-limpet.

[1] To the Rev. T. L. J. Warneford, formerly chaplain at the Andamans, I am indebted for the classical names of many of the shells in this list.
(*a*) denotes those that are cooked and eaten
(*b*) denotes those that are cooked and eaten by *married* persons only.

Andamanese name.	Scientific name.	Remarks.
nyē·red-	Mitra adusta	Mitre-shell.
ó·do-	Nautilus (? zic-zac).	
ó·la- (*a*)	Cerithium (? nodulosum).	
ó·log-	Strombus (? pugilis) ..	
pai·dek- (*a*)	Arca (? barbata).	
pail- (*b*)	Mytilus smaragdinus ..	Sea-mussel.
pai·lta- (*b*)	Pharus (?)	
páp-ó·la- (*a*)	Turbo porphyreticus.	
pē·te- (*a*)	Circe (?)	
pó·rma- (*a*)	Arca (?)	
·pū·luga làr â·lang- ..	Dolium latelabris (? also galea).	
rē·keto-	Hemicardium unedo.	
rō·kta- (*b*)	Cyrena (?)	
tâ·ra-ó·la- (*a*)	Natica albumen.	
tai·liq-pū·nur- .. .	Conus (? nobilis).	
teb- (*a*)	Bulla naucum	Bubble-shell.
tē·lim-	Cypræa Arabica	Cowry.
„	„ Mauritiana.	
„	„ Talpa.	
„	„ Tigris.	
„	„ Vitellus.	
tīl-	Cassis Madagascariensis (? also tuberosa).	Queen-conch.
tòiña-	Ostrea (?)	Eaten many years ago but not now.
tū·a- (*a*)	Trochus Niloticus.	
ū- (*a*)	Cyrena (?)	
ū·chup-	Conus textile	Cone shell.
ū·yo-	? Turbinella pyrum, *or* Pyrula (? ficus)	Shank shell.
wal- (*b*)	Spondylus (?)	Thorny oyster.
wá·ngata- (*a*)	Arca (? granosa).	
wóp- (*b*)	Ostrea (?)	Oyster.
yá·dī làr ē·te- (*a*) ..	Haliotis glabra, *also* „ asininus.	Ear-shell.





PALÆOLITHIC FLINT IMPLEMENT.
From Bed of the Thames.

ANTHROPOLOGICAL MISCELLANEA.

Palæolithic Implement from the Bed of the Thames.

In the last number of this Journal (p. 230), reference was made to a palæolithic flint implement from the bed of the Thames, which was exhibited before the Institute on May 9th, 1882. Mr. Lambton Young, the owner of the implement, has since presented a photo-engraved block, taken from a sketch by Mr. G. M. Atkinson, and from this block Plate XII has been printed. The following particulars have been obligingly furnished by Mr. Atkinson:—

This remarkably fine palæolithic flint implement was found during the process of excavating the bed of the Thames, for the purpose of laying the foundation of one of the piers of the Chelsea Suspension Bridge, now called the Victoria Bridge. The Act of Parliament authorising the construction of this bridge, for H.M.'s Commissioners of Works, was passed in 1846, and the work was commenced in 1851. The bridge, which is suspended from chains carried over two piers, 704 feet apart, forms a line of communication from the bottom of Sloane Street, Chelsea Bridge Road, across the river Thames to Victoria Road, east side of Battersea Park, Surrey. In 1854, Mr. Lambton Young, C.E., while superintending the dredging out of the coffer-dam at the Surrey-side pier, 18 feet below the bed of the river, fortunately observed and rescued the interesting object represented in Plate XII.

M. Boucher de Perthes, in 1847, first directed attention to this type of flint implement, which he found in the drift at Abbeville and other parts of the valley of the Somme. By the discoveries of Colonel A. Lane-Fox (now General Pitt Rivers) in the High-terrace gravel at Acton, in May, 1871, the subject of palæolithic weapons in the valley of the Thames was brought into the prominence it deserves. It is noteworthy that at Acton, 70 feet above high water mark, just resting on the London clay, implements of the drift type were found; and in the bed of the Thames, in a similar position, Mr. Young's very perfect specimen was obtained. The plate represents a front and a side view of the weapon, with a section of the river-bed. The greater depth of water at the point where the pier is placed, was caused by constant dredging for some time previous to the commencement of the works. The sand and gravel was, prior to this, 18 feet thick above the implement.

In connection with the subject of palæolithic implements in the Thames Valley, attention may be directed to the discoveries of Mr. Worthington G. Smith, which have frequently been submitted to the Institute.

NOTE TO A COMMUNICATION "ON THE SURVIVAL OF CERTAIN RACIAL FEATURES." By J. PARK HARRISON, Esq., M.A.

THE omission of minus signs in Tables I and II, on p. 249 of the last number of this Journal, having rendered it necessary to reprint the tables in a correct form, the opportunity has been taken advantage of to withdraw two of the skulls (numbered 268 and 270 in the Thurnam collection of Anglo-Saxon crania), which presented features belonging to the round-barrow type of men.

Deducting the values of their nasal projections, the average in the case of the male skulls, in Table I, is precisely the same as in that of the female skulls in Table II, on an equal number of examples.

TABLE I.

EIGHT MALE ANGLO-SAXON SKULLS.

[1] Museum No.	[2] Nasal projection.
238	·05 in.
*244	·10 „
245	·00 „
*247	·10 „
249	−·05 „
258	·00 „
261	−·10 „
273	·00 „
Average	·012 „ (·03 cm.)

TABLE II.

EIGHT FEMALE ANGLO-SAXON SKULLS.

Museum No.	Nasal projection.
240	−·05 in.
250	·05 „
264	·05 „
265	·00 „
266	·00 „
267	−·05 „
269	·05 „
282	·05 „
Average	·012 „ (·03 cm.)

The skulls withdrawn (Nos. 268 and 270), which were obtained from the cemetery at Long Wittenham, in Berkshire, are distinguished by very receding foreheads, certainly not a Saxon feature: and other osseous remains at Long Wittenham were evidently those of a taller race than the Saxons. The thigh-bones of the men,

[1] Anatomical Museum, Cambridge.

[2] Difference in lengths from basion to nasion, and a fixed point half-an-inch below it.

as described by Mr. Akerman, were from 20·5 inches to 17·5 inches long, and in one grave he found a thigh-bone of a woman exceeding 20 inches in length. Some of the objects, too, interred with the skeletons, were such as are seldom found in Saxon graves. The skulls may have been either partly British or purely Anglian. In either case it seemed better to exclude them, though labelled "Anglo-Saxon."[1]

The skulls numbered 244 and 247, in Table I, with an asterisk prefixed, were derived respectively from the cemeteries of Fairford, Gloucestershire, and Kilham, in the East Riding. Cross fibulæ of considerable dimensions, found at Fairford, resemble forms commonly met with in Anglian cemeteries of the midland counties, and, so far as observation has yet extended, are not found in the South of England; "the inference being," as Dr. Thurnam said, "that they are Anglian rather than Saxon in their origin and use." Kilham, also, is probably a mixed cemetery: and the nasal projection in skulls Nos. 244 and 247, with their somewhat receding foreheads, and features more pronounced than in the Saxon, indicate Anglian admixture, but not sufficient to justify their exclusion from the tables.

Some doubt has arisen in my mind whether the second example of the German profile in the "Crania Ethnica" (viz., that of the "Franc Ripuaire," from the Lower Rhine)[2] is sufficiently pure Teutonic to be classed with the Saxon type pure. Also the Frankish graves contain objects which are not found with Saxon interments, *e.g.*, the large cross fibulæ, already alluded to, and the Francisca axe, a weapon used by the Danes and Jutes, but not by the Saxons proper.

Inquiry having been made as to the estimated age of the ancient Britons and Saxons, whose profiles are contrasted in the communication to which this note is an appendix, the average for the former (included in figs. 1, 2, 3, p. 246), as given in the "Crania Britannica," is 47. But the five skulls from Derbyshire (not six, as stated in error) belonged to individuals whose average did not exceed 40. The age of the Anglo-Saxons (fig. 4) appears to have been 37.

The averages in millimetres were obtained by calculation, except in some cases, where measurements were taken a second time by callipers, graduated for the purpose.

The following additional corrections are required:—p. 249, line 12, for *Humphrey* read *Humphry*; p. 250, line 16, for *four* read *two*; p. 250, line 23, for ·03 read ·30.

[1] The average nasal projection of the skulls of the round-barrow men, obtained in the same manner as in the Tables, is double that of the Saxon skulls.

[2] "Crania Ethnica," Plate XCVIII; see also Plate LXXIX, p. 498, n. 6.

The National Ethnological Museum at Leyden.

Dr. L. Serrurier, the Director of this Museum, has issued a circular appealing for contributions of objects of ethnological interest, to be sent either as donations to the collection, or as loans for temporary exhibition. The Museum has lately been greatly extended by additional buildings, and Mr. J. D. E. Schmeltz, formerly manager of the Godeffroy Museum at Hamburg, has been appointed curator. The ethnological objects in the Model Room of the Ministry of Marine, and those in the Royal Cabinet at the Hague, will be transferred to the newly-organised Museum, which will then contain about 18,000 specimens. It is hoped that the International Colonial Exhibition, to be held this year at Amsterdam, will offer an opportunity of still further augmenting the collections. Medals will be awarded to those donors who present gifts of importance.

A Scheme of Anthropology.

At the Montreal meeting of the American Association for the Advancement of Science a paper was read by Professor Mason, on "A Scheme of Anthropology." This paper was designed to enable anthropologists to classify their materials, and also to indicate the steps of progress which are involved in a true scientific investigation. For this purpose the Greek words, *Genea*, *Graphe*, *Logos*, and *Nomos*, were employed as the suffixes of several series of terms. For example, the whole study of man would be represented by the four words, *Anthropogeny*, *Anthropography*, *Anthropology*, *Anthroponomy*. The first word covers all investigations referring to the origin of man, the second to correct observation, the third to classification, the fourth to the discussion of the laws of the science. In like manner, Professor Mason suggested, for ancient history, the terms, *Archæogeny*, *Archæography*, *Archæology*, and *Archæonomy*, and for modern anthropology, several series of four terms each, beginning with the words, *Biogeny*, *Psychogeny*, *Glossogeny*, *Ethnogeny*, *Technogeny*, *Sociogeny*, and *Mythogeny*. For the study of the relations between man and his environment, the speaker adopted the terms, *Hexiogeny*, *Hexiography*, *Hexiology*, and *Hexionomy*.

THE JOURNAL

OF THE

ANTHROPOLOGICAL INSTITUTE

OF

GREAT BRITAIN AND IRELAND.

JULY 11TH, 1882.

[*A Special Meeting held at No. 4, Grosvenor Gardens, S.W., by invitation of the President and Mrs. Pitt Rivers.*]

Lieut.-General PITT RIVERS, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following Paper was read by the author:—

On the LONGEVITY *of the* ROMANS *in* NORTH AFRICA. By the Right Hon. LORD TALBOT DE MALAHIDE, F.R.S., F.S.A.

THE subject of longevity has long engaged the attention of curious and learned men.

My friend Mr. Thoms has written an exhaustive work on the subject, which is doubtless familiar to most of you. I think he has proved that in many instances the ages of men have been exaggerated, and that there is not much trustworthy evidence on the subject. I fear that there has been some mistake as to the age of my countrywoman, the celebrated Countess of Desmond. I am, however, inclined to believe the story which Henry Jenkins told of his having been present at the battle of Flodden Field. This would make his age above 157.

The imperfection, and in most cases total absence, of registries renders this case incapable of proof. The same objection applies

to the Russian cases, which are quite as wonderful as anything on record.

I am, however, disposed to attach more faith to the Roman cases, and I will give you my reasons at length at the end of this paper.

North Africa was covered with Roman colonies and municipia, and, fortunately, numerous inscriptions have been discovered which throw much light on the economic and administrative state of the Roman Empire.

Mr. Renier has published a collection of these, and a still more complete series is published by Mr. Willman under the auspices of the Royal Academy of Berlin. Upwards of 10,000 inscriptions are thus calendared, all found in Algeria or Tunisia, and every day fresh ones come to light.

One of the most remarkable monuments of this kind is the Tomb of Prœcilius, the goldsmith at Constantine, which, when first found, was decorated with numerous statues and curious mosaics, but has been allowed by the French authorities to be utterly gutted and destroyed. It contained a metrical inscription which, though not written in classical Latin, is interesting, and presents a graphic account of Roman domestic life. It is as follows:—

Hic ego qui taceo versibus meam vitam demonstro.
Lucem claram fruitus et tempora summa
Prœcilius, Cirtensi Lare, argentariam exibui artem,
Fydes in me mira fuit semper et veritas omnis;
Omnibus communis ego. Cui non misertus ubique?
Risus, luxuriam semper fruitus cum caris amicis;
Talem post obitum dominæ Valeriæ non inveni pudicæ
Vitam; cum potui gratam, habui cum conjuge sanctam.
Natales honeste meos centum celebravi felices;
At venit postrema dies, ut spiritus inania membra reliquat
Titulos quos legis vivus me morte paravi
Ut voluit fertuna; nunquam me deseruit ipsa.
Sequimini tales: hic vos experto, venite.

EPITAPH OF PRŒCILIUS.

Here I am silent, describing my life in verse.
I enjoyed a bright reputation, and the height of prosperity.
Prœcilius by name, a native of Cirta,
I exercised the art of a goldsmith.
My honesty was wonderful, and I always adhered to truth;
I was courteous to all men, and whose distress did I not succour?
I was always gay, and hospitable to my dear friends;
A great change came over my life after the death of the virtuous Lady Valeria;
As long as I could, I enjoyed the sweets of holy matrimony;
I celebrated a hundred happy birthdays in virtue and happiness;
But the last day has arrived, as the spirit leaves my exhausted limbs.
Alive I earned the titles which you read, as Fortune willed it. She never deserted me.
Follow me in like manner; here I await you! Come.

Dr. Leclerc has made a summary of the ages of persons whose funerary inscriptions are given in Renier's "Recueil d'Inscriptions Africaines." The number of persons who reached the age of from 80 to 90 and upwards is very considerable. He reckons 90 deaths between the age of 90 to 100, and 230 between 80 and 90.

The following is a list from Numidia (Province of Constantine):—

100 years	.. .. ..	14	
101 „	.. .. ..	10	
102 „	.. .. ..	2	
103 „	.. .. ..	1	
105 „	.. .. ..	7	
106 „	.. .. ..	1	
107 „	.. .. ..	1	
108 „	.. .. ..	1	
110 years	.. .. ..	5	
115 „	.. .. ..	4	
120 „	.. .. ..	3	
125 „	.. .. ..	2	
126 „	.. .. ..	1	
127 „	.. .. ..	1	
131 „	.. .. ..	1	
132 „	.. .. ..	1	

Since his paper was written many more have come to light.

To take a single locality, Mastar, which appears to have been a small town, its cemetery has yielded the following names:—

Annia R.	.. .. ..	101	
Cœcilius	.. .. ..	100	
Gargilius	.. .. ..	103	
Granius	.. .. ..	110	
Ninava	.. .. ..	115	
Petreia	.. .. ..	115	
Marcela	.. .. ..	120	
Januarius	.. .. ..	101	
Martialis	.. .. ..	105	
Another	.. .. ..	115	
Jussata	.. .. ..	105	

I will give a few specimens of the style of the inscriptions, which show the methodical manner in which the ages are recorded:—

INSCRIPTIONS AT CARTHAGE.

Christian.

D. M. S.

FELIX CÆSARIS
SER DONATA FIL
TABELLARIVS PIVS
VIXIT ANNIS PLVS
MINVS XXXX VICTO
RIA CONSERVA FECIT.

D. M. S.

JVLIA RV
FINA PIA VI
XIT ANNIS
XXXV PLVS
MINVS.

Now in the Bibliothèque Nationale at Paris.

PROVINCE OF CONSTANTINE.

L. LVCI FIL
IA. MARC
ELA V.A CXX
DXII. H.S.E.

(Annuaire de Constantine, 1862.)

D. M. S.
VET.
HISTRVIA
V ANNIS
CXXV

GEMINIA A.F.
MATRONA V.A
XXCL H.S.E (130 years).

(Annuaire, 1866, p. 43.)

NAVA
CXI

(Annuaire, 1866, p. 52.)

T. FLAVI
VS CAS
TVS VA
OXV H. S.E (113 years).

(Annuaire, 1866, p. 73.)

D. M.
L CORGIV
. . . VS INFI
YCIANVS
V.A CXX

(Annuaire, 1866, p. 157.)

M.A.M.S.F
P. VIX. AN
CXI
D. M. S.

(Annuaire, 1866, p. 224.)

MAVIB
Æ MIVIR
CA. VIXIT
ANNI. CX
FIL.

In considering what machinery the Romans employed for determining the ages of citizens, we must first advert to the duties of the censors.

The censors, the most important officers, if not the most ancient, in the Roman Commonwealth, are said to have been first appointed by King Servius Tullius, and they retained their functions during the whole of the Republic, and the beginning of the Empire, when they merged in the crown.

Their duties were manifold. They exercised what our neighbours would call a *police de mœurs*, and fixed the position of citizens, particularly senators and knights.

They also managed, in conjunction with the quæstors, the finances of the State. These are matters with which we have nothing to do. We shall therefore consider their duties as managers of the *census*, or enumeration of the people. According to the quaint language of the twelve tables, "Censores populi ævitates, soboles, familias pecuniasque censento." "The censores are to inquire into the ages of the people, their families and servants, and also their incomes."

Each citizen had to give an account of himself, of his family, and of his property on oath. First, he had to give his full name (prenomen, nomen, and cognomen), and that of his father, or if he were a freedman that of his patron, and he was likewise obliged to state his age.

He was then asked, "Tu, ex animi tui sententia uxorem habes?" and, if he was married, the name of his wife, and likewise the number, names, and ages of his children, if any.

Whoever voluntarily absented himself from the census was subject to the severest punishment. Servius Tullius is said to have threatened the *excensus* with imprisonment and death, and in the Republican period he might be sold by the State as a slave. It is supposed, from a passage in Livy, that in later times the censors sent commissioners into the provinces, with full power to take the census of the Roman soldiers there.

The regular depository for all the archives of the censors was in the earlier times the *Atrium libertatis*, near the *Villa publica*, and in later times the Temple of the Nymphs. The term *vasaria* was applied to them, probably because they were preserved in vases.

There does not appear to have been a general census taken in the provinces till the time of Augustus. This Emperor caused an accurate account to be taken of all persons in the Roman dominion, together with the amount of their property; and a similar census was taken from time to time by succeeding Emperors, at first every ten and subsequently every fifteen years. The Emperor sent into the provinces especial officers to take

the census who were called *censitores*, but the duty was sometimes discharged by the imperial legate. The censitores were assisted by subordinate officers, who were called *censuales*, who made the lists, &c.

By an ancient regulation, ascribed also to Servius Tullius, all births were registered in the Temple of Venus, and all deaths in that of Libitina; and this practice was continued under the Empire, only that at a later period the Temple of Saturn was substituted for that of Venus for the registration of births.

The *censor, curator*, or *quinquennalis*, was a municipal magistrate, and corresponded to the censor at Rome, and in some instances to the quæstor also.

In stating the duties of censor, I am much indebted to Dr. Smith's Dictionary of Roman Antiquities.

I think I have shown that the Romans did not neglect the duty of enumerating and registering their citizens. I shall conclude by quoting some curious passages in Pliny's Natural History which bear on longevity.

In the forty-ninth and fiftieth chapters of his seventh book, he discusses the subject at length. He does not here betray the credulity of which he has been justly accused, but displays a considerable amount of logical acumen.

He mentions, only to discredit them, the legends which ascribed to Arganthonius, King of Cadiz, the age of 150; Cynyras, King of Cyprus, 160; Egimius, 200; and, in spite of the high authorities of Theopompus, Hellanicus, and Xenophon, does not believe that Epimenides lived to 153, certain Ætolians 200, a King of Illyricum 500, and a King of Tyre 600.

He, however, mentions, as undoubted instances of longevity, a Sicilian of the name of Gorgias, who lived to 108; M. Valerius Corvinus and Metallus Pontifex M., who lived to 100; Terentia, Cicero's wife, 103; Clodia, wife of Ofilius, 115. An actress named Sammula is said to have lived to 110; and a certain T. Fullonius, of Bononia, is said to have lived to 150.

With respect to Fullonius, it appears that the Emperor Claudius took great pains to verify this fact. "Idque collatis censibus, quos ante detulerat, vitæque argumentis (etenim id curæ principi erat) verum apparuit."

Pliny also gives a particular account of a recent census during the censorship of the Emperors Vespasian and Titus. He says, *nec sunt omnia vasaria excutienda*. He does not go through all the archives, but confines himself to the district between the Apennines and the river Po.

His summary is as follows:—

In this district there were found—

54	men of	100 years.
14	„	110 „
2	„	125 „
4	„	130 „
4	„	135 or 137 years.
3	„	140 years.

The Romans seem to have taken much pains to ascertain the veracity of their statements as to age. But of course they sometimes made mistakes, and although the age of the deceased is almost universally given on tombstones, on several you see added PLVS MINVS when they were not quite certain.

I have not attempted to continue this inquiry to more recent times. I have no doubt that among the native tribes, the Kabyles and Berbors, many cases of longevity may be found, but the absence of registries and other reliable evidence would prevent a successful result.

Discussion.

Mr. Villiers Stuart called attention to the remarkable case of the Countess of Desmond as an instance of longevity. The Duke of Devonshire's agent, in searching for fishery documents at Lismore Castle, discovered a list of farms purchased by the Duke's ancestor from Sir Walter Raleigh. Attached to them was a statement that they were subject to the payment of the jointure of the old Countess of Desmond, "now aged seven score years." As this was a legal contemporary document it is almost conclusive as to her age. Her distinguished social position, and the interest which the representatives of the estate had in watching that there should be no imposition, was, the speaker believed, the strongest evidence we could have of the genuineness of her case.

Mr. Moncure D. Conway stated that he had heard Thomas Carlyle relate that he once visited a man who was certainly over a hundred years of age. His eyes were like horn, and his skin like leather.

Dr. John Evans thought that possibly in ancient as well as in modern times epitaphs were not distinguished for their strict veracity. It was, moreover, well known that there was a tendency among persons of advanced years somewhat to exaggerate their age. There might possibly have existed in the North of Africa some custom of reckoning by years of twelve lunar months instead of by the solar year, but he had no special grounds for believing this to have been the case.

Mr. F. Galton alluded to a current opinion that old couples were more often to be met with than the mere chance of the double event would render probable. He had himself noticed several cases, and was inclined to believe in the truth of the opinion, though he had not sufficient evidence to speak positively. If it were true, we

might reasonably conclude that longevity was a good deal dependent on the state of the domestic *ménage*.

Sir JOSEPH FAYRER adduced two instances of great age, probably exceeding 100 years. When at Lucknow, in 1854, among other institutions under his supervision was one known as the Khairāt-Khāna, founded by King Nusseet-oodeen Hydet. It was a charitable institution, and one of the outdoor pensioners—a hale, vigorous old man, a Mohammedan, who used to walk some miles to receive a monthly pension—had been a Soubhadar at the battle of Buxar. It was hardly probable that his age, holding that rank (equivalent to "captain") could be less than 20,—probably it was more,—so that as the battle of Buxar was fought in October, 1764, supposing his age to have been 21, at the time the speaker knew him he must have been, in 1855, 110 years of age; and then, though he looked very old, he seemed by no means likely to die of old age and debility for some time. Sir Joseph lost sight of him before the Mutiny broke out. The second case was that of an Armenian in Calcutta, who was admitted into the hospital with a fracture of the neck of the thigh-bone. He was very old, feeble, and irritable, would not talk freely, but told the speaker that his age was very great, and that he remembered seeing Nuncomar's execution, and that he was a grown lad at the time, say 14 to 16. This statement was made in about 1866. Nuncomar was hanged on August 5th, 1775. Supposing him to have been 16 at the time, his age in 1866 was 107. He died, as far as Sir Joseph could remember, of exhaustion and debility after the accident.

Dr. ALLEN THOMSON mentioned his having visited, many years ago, in Edinburgh, a lady whose well-authenticated age was then 107 years. With some degree of torpidity of her muscular powers she was in possession of the senses of sight and hearing, and a considerable amount of her mental faculties. She belonged to a family many of the members of which attained to an unusually old age.

Mr. CARMICHAEL thought it not unimportant to inquire how far Lord Talbot de Malahide had distinguished between the classes of society to which the persons commemorated in the inscriptions brought forward by him belonged. For in the case of slaves or freedmen, Mr. Carmichael saw no reason to suppose that there was any greater probability of accurate knowledge of age being possessed by a Roman slave than was formerly found among American and West Indian slaves. In the case of the "*Verna*," or slave born on his estate, or in his house, alone could the Roman master have a possibility of personal knowledge of the facts. In all other cases the computation must have been vague, and based on no certain data. In reply to the suggestion by the noble lord that the Roman slave was a member of the family, Mr. Carmichael said he was of course aware of that, but it was true only in the technical sense of the term "*Familia*," in Roman law.

The PRESIDENT also took part in the discussion, and the author briefly replied.

The following paper was read by Captain Burton :—

On STONE IMPLEMENTS *from the* GOLD COAST, WEST AFRICA.

By Captain R. F. BURTON, F.R.G.S., and Commander V. L. CAMERON, C.B.

[WITH PLATE XIII.]

THE discovery of a stone age in these barbarous regions is thus reported by my late friend[1]:—"One morning, in 1870, Mr. Zimmermann, of the Basle Mission at Odumassi, near the Volta, brought me a stone which had evidently been shaped by human hands into the image of an axe. It was so small as rather to resemble a toy or model than a real implement of work; yet such in past ages it had been. With these miserable tools the ancestors of the white men, the red men, and the black men, had hewed down the oaks of Europe, the cedars of Asia, the pines of America, and the huge silk-cotton trees of Negroland. Not only are these stone implements dug up all over the world, but all over the world they are supposed by the common people to be thunderbolts. As regards Western Africa this belief is easily explained. The stone age is there comparatively recent, and many axes are merely covered by the upper soil (?). After heavy storms of rain, which are usually accompanied by thunder and lightning, this upper soil being washed away, the stone implements are found lying on the ground, and so seem to have fallen from the sky. However, the stone which Mr. Zimmermann showed me had been dug in his yard at some little depth below the surface. He informed me that he had sent specimens to the Missionary Museum at Basle, and I afterwards discovered that the specimens from Christiansborg (while that fort was under the Danes) had been sent to the Copenhagen collection, which is unrivalled in the world for its relics of the age of stone. But I was the first to bring stone implements from Western Africa to England, and being thus put upon the scent, obtained large numbers at two other missionary stations —Akropong and Aburi."

And here I must note that Mr. Crocker, of Crockerville, on the Gold Coast, told me that Winwood Reade had found, at Aquapim, fine specimens of hatchets, with holes pierced for hafts. Of these Captain Cameron and I found none on the Gulf of Guinea.

Windwood Reade resumes: "The next time I saw a stone implement was in the tent of Mr. Kuhne, at Prahsu. He had

[1] Winwood Reade, "The Story of the Ashantee Campaign," pp. 2–4. London: Smith, Elder, and Co., 1874.

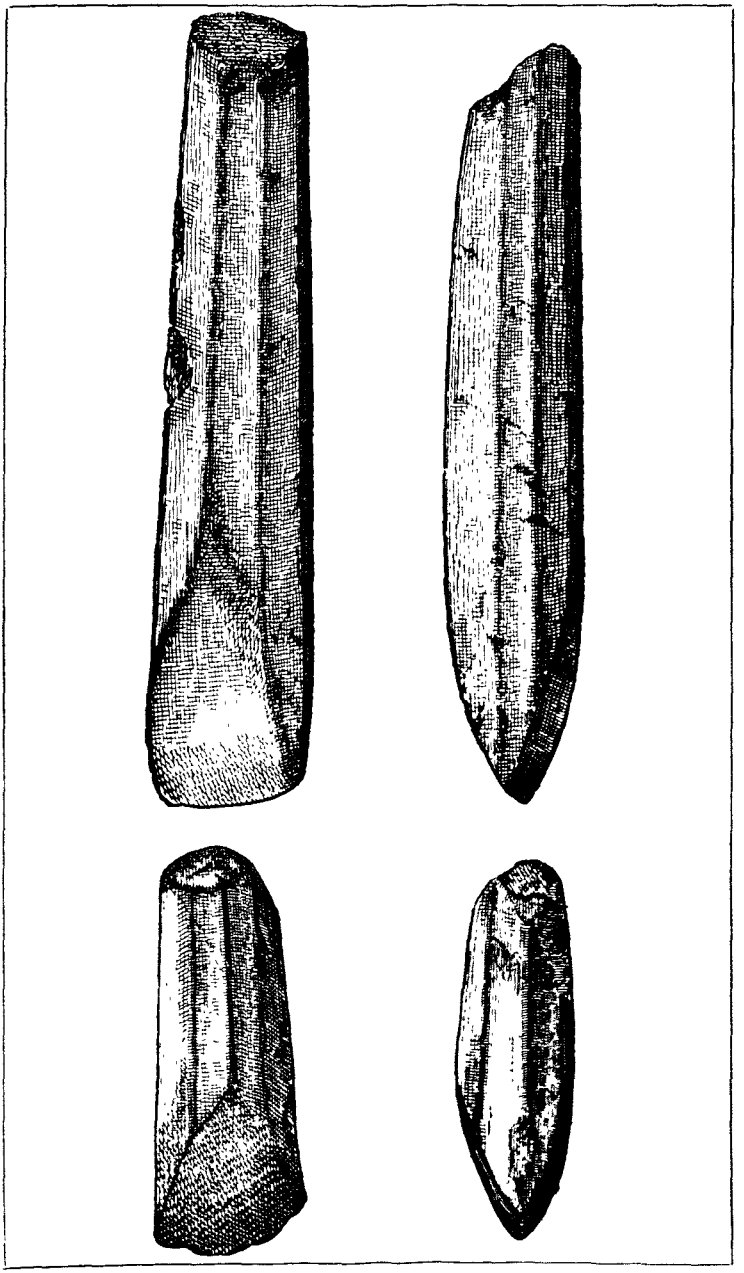
found it on an Ashantee altar, or shrine, as he was on his way from Coomassie to the camp. I asked my interpreter if he had ever seen one before; he replied that they were 'found everywhere,' and I made a small collection during the march through Ashantee. When the troops took a village I always hunted for this kind of plunder. Sometimes I found the stone hanging before doorways at the end of a string, like a plummet, and often it would be daubed over with chalk. The natives regard these stones with superstitious reverence, and call them *god-axes;* and, believing that all things sacred are medicinal, grind from them a powder which they use for rheumatism and other complaints."

Lastly, we are told (p. 314) that Reade's companion, Lake, found at Amoaful some stone implements, which are now in Sir John Lubbock's collection. Dr. John Evans owns, I believe, one of the Aquapim finds.

Arrived at Axim, I nailed to the wall of our sitting-room a rough print, showing the faces and profiles of stone implements, and drew to it the attention of all native visitors. The result was that the people began bringing specimens at once. The supply continued to come in, both up and down the coast, until I had secured thirteen fragments and entire specimens. When, however, the vendors found that value was attached to their wares, the price rose from a shilling to a dollar, and at last £100 was freely talked of. All were of the neolithic or ground type; none was of the palæolithic or chipped; and arrow-heads and spear-heads were apparently unknown.

Mr. Carr, native factotum at Axim for Messrs. Swanzy, an able and intelligent man, brought in sundry pieces, and furnished me with the following notes. The stones are picked up at the mouths of streams that have washed them down after heavy rains. But the people here, as elsewhere, call them "thunder-stones" (*Srámaⁿbo*). These Keraunia are supposed to fall with the "bolt," to sink deep in the earth, and to rise to the surface in the process of years. Hence the people search for them where the "thunder has fallen."

The stones are used in medicine, and those of black colour have generally been boiled in oil to preserve their qualities. After this process they resemble the Básanos (*βάσανος*) of Lydian Tmolus: on the Gold Coast, however, the touchstone is mostly a dark jasper imported from Europe. The thunder-stone is supposed to "cool the heart"; and the infusion, regularly drunk, prevents infantine diseases becoming too severe. They are mostly of fine close felsite, or the greenstone-trap (diorite), found everywhere along the coast. I heard, however, that at Abusi, beyond Anamabo, and other places further



STONE IMPLEMENTS FROM THE GOLD COAST, WEST AFRICA.

east, specimens of a lightish slaty hue are common. Captain Cameron, whose fine collection is described elsewhere, brought home one that felt and looked like soapstone coloured *café-au-lait.*

Axim seems to have been a great centre of stone manufacture. Mr. Carr showed us some curious remains in Messrs. Swanzy's compound. The slopes of the wart upon which their powder-magazine is built, especially the southern, are garnished with huge untrimmed boulders of this greenstone, whinstone, ironstone, or diorite. The upper surfaces are scored and striped with leaf-shaped grooves, some of them three feet long by three inches wide and two deep. Probably chippings of the same rock were here ground to the required size and shape. I counted twelve large blocks, chiefly at the south-eastern angle of the monticle, and Cameron photographed the most remarkable. The late Mr. Robertson, of the Izrah Mine, compared the boulders with the Bell Rock on the Winterhoech farm, 150 miles from the Natal coast, and six miles from Graytown. It takes its name from the ringing sound when struck by stone or bullet. No one has accounted for the stripes down the sides which may result from grinding stone implements. Captain Cameron, in returning from Tákwá, put in a few gads, and with Mr. Carr's leave broke off a fragment weighing some 600 lbs. It is now in the British Museum.

We afterwards found a number of these grooved boulders by walking round the seaward face of the Fort Saint Anthony: some were in the water and others stood high and dry. In the settlement north of the Fort there is one at the corner of a native house; and there is a fine specimen in the bed of the Anjueri rivulet, one of the many which pass through the red clay ground to the north of Axim before the traveller debouches upon the sands leading to the Ancobra river.

Explanation of Plate XIII.

Front and side views of two stone axes brought by the authors from the Gold Coast, and represented of natural size.

DISCUSSION.

Dr. JOHN EVANS observed that there was a strong general resemblance between the West African stone implements and those found in Greece and Asia Minor. He did not recognise any well-marked distinction between the one which was reported to have been used for gold-mining and the other specimens. The reverence shown to those hatchets might be paralleled by that exhibited towards them in India, where it is the custom to daub the ancient stone

hatchets with red paint as *mahadéo*. Curiously enough, the Egyptian hieroglyph for *Nouter*, God, is the figure of an axe. The popular belief of such hatchets being thunderbolts, he observed, was of very wide range. Though polished stone hatchets had already been brought from the West Coast by Mr. Winwood Reade and Mr. Bowen, he believed that they had not as yet been found in Southern Africa.

Professor BOYD DAWKINS, Lord TALBOT DE MALAHIDE, Dr. Ross, and the PRESIDENT took part in the discussion.

Commander CAMERON described a number of objects of ethnological interest from the West Coast of Africa, which had been brought for exhibition by himself, Captain Burton, and Dr. Ross.

The PRESIDENT exhibited an ancient Egyptian Boomerang, from Thebes, which had been lately added to his collection, and read the following paper:—

On the EGYPTIAN BOOMERANG *and its* AFFINITIES.

By Lieut.-General PITT RIVERS, F.R.S.

[WITH PLATE XIV.]

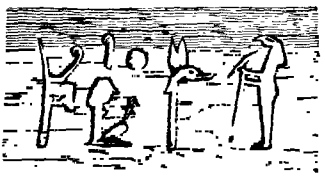
WHEN at Thebes, in March, 1881, I heard that an ancient Egypian boomerang had been sold to Dr. Pinkerton, who was at that time living on board a Dahbeeah in the river. I made several inquiries about it, but failed to elicit any further particulars, and not having the pleasure of Dr. Pinkerton's acquaintance, I subsequently forgot all about it. About a month ago I received a letter from Mr. Samson Gemmel, of Glasgow, informing me that a friend of his, without mentioning his name, had lately died, and had left me a boomerang. Thinking it was probably an Australian boomerang, of which I had already a sufficient number in my collection, I wrote thanking him for the present, and again the matter escaped my memory until within the last few days, when a parcel arrived which I opened, and to my surprise and satisfaction I found that it contained the rare and valuable specimen of an ancient Egyptian boomerang, now upon the table, and figured in No. 6, Plate XIV.

I at once recognised it by the wood, its form, and its peculiar ornamentation, which exactly resembled two others which I had seen and drawn, and which had been lately added to the British Museum. I therefore wrote to Mr. Gemmel for further particulars, and he in reply informed me that the friend referred to was Dr. Pinkerton, who, before his death, had

included amongst his last requests the desire that the weapon in question, which he had obtained at Thebes about the time I have mentioned, should be added to my collection.

At the same time that this weapon was procured at Thebes, the two others mentioned above were obtained, probably from the same tomb, and they have found their way, through Mr. Greville Chester, into the British Museum. One, represented in fig. 7, Plate XIV, is hooked at the end and slightly twisted; the other, fig. 8, Plate XIV, exactly resembles mine, but is less neatly finished. Both are ornamented exactly in the same manner as mine, by means of four parallel grooves which run down the centre of the blade on each side, and they are of the same size and depth in all three specimens. The one with the hooked blade is further marked with an inscription represented in the annexed woodcut, marked A, which has been identified

A.



CARTOUCHE OF RAMESES THE GREAT.

as part of the cartouche of Rameses the Great, 1355 B.C.; and there can be little doubt, I think, that all three must have come from the great find of antiquities recently discovered at Thebes, and which contained, amongst others, the mummy of that monarch.[1] Another flat-curved stick in the Boulak Museum, about 3 feet 6 inches in length, and probably a stick for throwing, but of a later period, is inscribed with the cartouche represented in the woodcut B, which Dr. Birch has interpreted for me as

B.

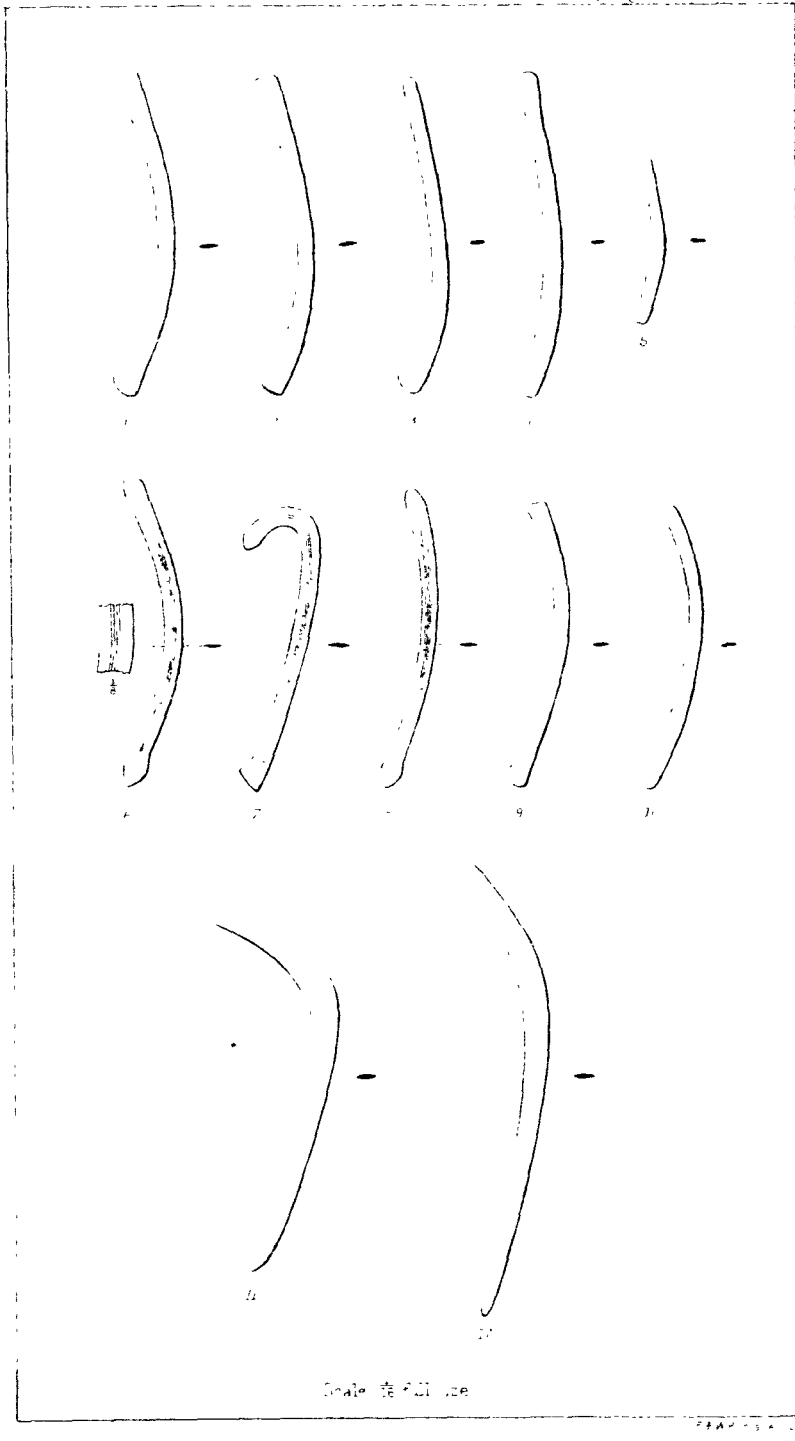


TA-A-Ā, SON OF THE SUN EVER-LIVING.

[1] This great find had been discovered when I was at Luxor; I had heard of it, although its whereabouts had not been disclosed to me, but it had in fact been offered to me for a large sum, which I declined, thinking it ought to remain in Egypt.

"Son of the Sun (TA-A-A) Ever-living," and of the period of the 17th dynasty.

I have drawn on the accompanying plate other ancient Egyptian boomerangs that are to be seen in different museums. Fig. 9, Plate XIV, has been in the British Museum for some time. I conclude it is the one mentioned by Sir Gardner Wilkinson as having been found by Mr. Burton at Thebes. I had a fac-simile made of it for experiment some years ago, and found that by throwing it against the wind I could make it return to my feet several times running: it has a flat enlargement at one end, and a similar but smaller enlargement at the other. Two others, figs. 3 and 10, Plate XIV, are nearly like it, but have no enlargement at one end. No. 3 is in the Boulak Museum at Cairo, where I took a drawing of it and of the others in the same museum, by permission of M. Maspero, who informs me that both this and figs. 1, 2, and 4, were obtained from Drah-abool-Neggah, at Thebes, and are of the period of the 11th and 12th dynasties—say 3064 B.C. Fig. 10 is in the Louvre at Paris; figs. 1, 2, and 4 resemble this, except that they have enlargements of equal size at both ends. Fig. 5 is a small one of bone, in the Boulak Museum. Fig. 7 is the one to which I have referred as being marked with the name of Rameses the Great, 1355 B.C. It has a flat enlargement at one end, and the opposite end is hooked and slightly twisted. I had a fac-simile made of it for experiment, and a similar twist given to the curved end; but it was found that it had no effect in screwing it up in the air, as indeed might be anticipated from its weight and thickness, and the shortness of the curved arm. I have not been able to detect any intentional twist in the others, and it seems probable that the twist in this one may have resulted from warping during the time that it was embedded in the tomb. Figs. 6 and 8 have an oval enlargement at the handle end, intended no doubt to compensate in weight for the greater width of the boomerang at the opposite end. The first is in my possession, and is the one given me by Dr. Pinkerton, and the other is in the British Museum. All these boomerangs have more or less flat sections, as shown in the plate, and the section is symmetrical on both sides—not flat on one side and convex on the other, as is the case with some of the Australian weapons. They differ in appearance from the boomerangs of the Egyptian sculptures figured by Sir Gardner Wilkinson in having a single curve, whereas those represented in the hands of fowlers in the sculptures have generally a double curve somewhat in the form of a drawn-out S, very much elongated and straightened. This must represent a different variety of the weapon. Some of the Australian boomerangs are S-shaped. All the Egyptian



ANCIENT EGYPTIAN & AFRICAN BOOMERANGS.

boomerangs represented in the plate, it will be seen, except figs. 6 and 8, which have the oval handle, are more curved at one end than the other.

Having now described all the ancient Egyptian boomerangs that I have been able to take drawings of in different museums, and having shown clearly by the sections attached to each that they are true flat boomerangs, and not merely round curved sticks, as has been erroneously assumed by some writers who have been guided only by the representation of them in the sculptures, I have only further to say a few words as to the significance of this form in its bearing on the possibility of connection with other countries in which the boomerang is used.

I find that my views on this subject have been misrepresented, owing mainly, I presume, to the fact that some more or less casual remarks of mine in my address to the Anthropological Department of the British Association in 1872 have been widely circulated, whilst two previous papers in which I discussed the subject in detail, in the years 1867 and 1868, having been published by the Royal United Service Institution, the Journal of which Society[1] is not so generally accessible to anthropologists, have received no attention. It has been assumed that I supposed the Egyptian and Dravidian boomerangs to be identical with that particular variety of the weapon which in Australia is made to return to the thrower after being hurled at the object it is intended to strike, whereas the very reverse is what I stated in the papers to which I refer. I have there shown, by giving a description of all the different varieties of the boomerang used by the natives of Australia, that the Egyptian boomerang, the trombush of the blacks of Abyssinia, and that of the blacks of Hindustan, correspond only to one class of the Australian boomerang, viz., that used by them for war, and considered the most useful weapon they employ, and that this form differs from the returning boomerang, which I describe as "having a slight lateral twist by means of which it is caused to rise in the air, screwing itself up precisely in the same manner as a boy's flying top, which rises and spins upon the ceiling."[2] This last kind of boomerang, I have contended, is merely a variety of the war boomerang, and is peculiar to the continent of Australia, and not found elsewhere, and that

[1] "Journal of the Royal United Service Institution," vols. xi–xiii, 1877–9.

[2] The form of the returning boomerang, its curve, its twist, and its peculiar section, flat on one side and convex on the other, has long been known in this country, and *fac-similes* of it have been used as toys for many years. More than forty years ago, when a boy, I practised with one of them copied from an Australian specimen, and acquired some skill in throwing it so as to return to me repeatedly, and also to pass behind me in its return flight.

it is a development of the plain war boomerang, which latter is used by several of the black races bordering on the Indian Ocean as well as by the Australians. Whether the returning boomerang of Australia is a weapon of precision or not is immaterial, and not worth discussing in reference to this question of distribution, because it is not this, but the plain non-returning war boomerang, which is found on the three continents of Africa, India, and Australia.

It is not doubted that the black races of the world are more closely allied to each other than to the rest of mankind. Their geographical distribution, no less than their physical peculiarities, favours the opinion that, notwithstanding the wide seas which now separate them, and notwithstanding minor differences of hair and form, they must originally have spread from a common centre, and if so must have carried with them the most primitive kinds of weapons of wood and stone that are to be found amongst savages in a low condition of culture. Of this class of weapons the boomerang is one, but it is reasonable to suppose that they must have taken it with them in its more simple and early form, and not in the more complex form into which it developed on the continent of Australia after the separation had taken place.

If it is said that the plain, non-returning boomerang, being a comparatively simple contrivance, and one derived from the use of natural forms of sticks, might have been independently invented in different places, the reply is, why, if such is the case, was it not invented on the continent of America, where nothing of the kind is found all the way from Baffin's Bay to Tierra del Fuego?[1] Why is it not found in Greenland, or Northern or Eastern Asia, or the Pacific Islands, in Europe or South Africa, or any part of the world which is not contiguous to the Indian Ocean? In India it is used only by the black aborigines of the country; in Africa it is used by the blacks in Abyssinia and the Upper Nile. I have here given illustrations of two of these wooden boomerangs, called trombush on the Upper Nile, which I copied from specimens in the Ethnographical Museum at Copenhagen (figs. 11 and 12, Plate XIV). It will be seen that they resemble some of the Australian boomerangs in form and section. These or cognate weapons are described by Sir Samuel Baker and others.

From this region, allied weapons in iron, called Hunga Munga, and various other names, all derived from the wooden trombush, spread over Central Africa continuously to the west coast; but I

[1] Care must be taken to avoid confusion of terms, by mistaking the throwing-stick of the Eskimo, Mexicans, and South American Indians, for the boomerang; this is a totally different principle of weapon, although both are sometimes called throwing-sticks.

believe I am right in saying that the wooden weapon is only found in the Eastern division of the continent, showing that its origin was from that source.

At the time when my two papers already referred to were written, Professor Huxley was of opinion that the ancient Egyptians were racially connected with the Australians, and if such is the case, it would of course strengthen my argument for a common origin for the boomerang, assuming it to have been originally an Egyptian weapon; but it is not material to my hypothesis, because there is great probability that the Egyptian boomerang may have been derived in Egypt from the blacks with whom the Egyptians were always in such close connection; and in confirmation of this it will be noticed that all the specimens figured in the plate were obtained from Thebes, that part of the Egyptian dominion which was contiguous to the country of the blacks.

In my former papers I have referred to Mr. Fergusson's learned treatise on the Cateia. I hardly think, however, that the evidence adduced by him is sufficient to establish the use of the boomerang in Europe. If it were so, it was probably derived from Africa, and developed from the African form; but the tradition of a returning weapon in Europe is mythical, and certainly referred to numerous objects besides weapons which could by no means have been derived from boomerangs; the speculation on this subject is more interesting than instructive.

The argument that the plain boomerang is too simple a contrivance to warrant its being supposed to have been carried from a common centre during the migrations of the black races of mankind into distant continents, must be met, firstly, by the fact of its geographical distribution, to which I have already referred, and secondly, by the consideration that a weapon which appears simple to us was not necessarily simple to people in the most primitive condition of society.

There is not the same necessity now that there was when my two papers on primitive warfare were written, to contend for the gradual development of ideas. Evolution has since then found acceptance in the world in relation to arts and culture no less than the physical development of race. The plain boomerang, such as it is, is found amongst the Dravidians of India, the Egyptians, and the blacks of Africa. Simple as it appears to be as a mechanical contrivance, it was not thought out in a day, and it is easy to trace the process by which it was arrived at.

The Australians, whether they are a pure or a mixed race, are without doubt the most primitive people in existence in regard to their arts. All their various weapons are obtained by

a selection of natural forms, and they possess none of those complex forms which imply descent from a higher civilisation. Amongst the existing weapons of the Australians, viewed as survivals, the whole history of the boomerang may be traced. Its development may be divided into four stages.

Firstly, the origin of the weapon may be ascribed to the tendency of all savages to throw their weapons at their enemies. The North American Indian throws his tomahawk, the Indians of the Gran Chaco their "Macana," the Kaffir his knobkerry, the Fiji Islander his club, the Australian his "dowak," as well as his waddy. Such weapons when thrown necessarily rotate in their flight, but not being specially adapted for rotation the movement is constantly impeded by the resistance of the air, and both the range and accuracy of the missile are necessarily impaired through this cause. I include, therefore, in the first stage of the history of the boomerang all weapons which are thrown by the hand, and which are not specially adapted for rotation.

In the second stage it would be discovered that a round curved stick would rotate more freely than a straight one. The impetus following the direction of the rotation would overcome the resistance afforded by the air to the movement of rotation. The weapon in its forward movement would be rapidly presented to the opposing air on its different sides, and the result would be an increase both of range and accuracy.

The third stage would be reached when it was found that by splitting the weapon in half throughout its length, and thereby opposing to the atmosphere a thinner edge, both the rotation and the range would be still further increased. The weapon now sails through the air like the fore and aft sail of a vessel hauled up to the wind, whilst the axis of rotation continuing parallel to itself, upon the well-known principle of rotating projectiles, would act as a rudder, tending to preserve the course of the weapon constantly in the direction originally given to it. This I consider to be the most important stage in the development of the boomerang. In this stage it is still used by the Australians for purposes of war, after they have further acquired a knowledge of the returning or screw boomerang. It was in this stage that I suppose it was carried by the black races into those distant regions in which it is now used. I have ascertained, by experimenting with fac-similes of the Egyptian boomerang, that the first idea of a return flight may have occurred to the people who used the boomerang in this stage. For, if the movement of transition, or forward movement, is brought to a stop by the resistance of the atmosphere whilst the weapon is still rising, the movement of rotation still continuing and causing the axis of rotation to continue parallel to itself, the

weapon in falling will slip back on an inclined plane towards the feet of the thrower, in the same manner that a kite when the string is suddenly broken will fall backwards in the direction of its tail. But it would not be possible to construct all flat boomerangs that are in this stage of perfection upon a truly uniform plane. Bends and twists must naturally occur, from the imperfections of the wood and the rudeness of the implements employed to construct them, and it would soon be found that certain twists had the effect of causing the weapon to screw itself up in the air like a child's flying-top. These accidental twists would be studied and imitated, and thus the weapon would develop into its fourth stage of improvement.

We have now, in the fourth stage, an additional force to consider in the flight of the weapon—1stly, the movement of transition, or forward movement; 2ndly, the movement of rotation; 3rdly, the force of gravity tending downwards; 4thly, the screw movement tending upwards, or at any rate in a direction that is perpendicular to the plane of rotation. When these two last movements operated in the same vertical line they would simply neutralise each other, but when from a slight divergence of the axis of rotation from the perpendicular they began to operate at an angle with each other, the resultant would cause the weapon to fly off in another direction, and this, combined with the sailing properties of the weapon, to which I have already alluded, would produce some of the peculiar movements of which the screw boomerang is capable. Diagrams of the flight of the weapon have been given by Captain Wilks, in his "Narrative of the United States Exploring Expedition." By constant practice and experience, which alone has been the instructor of the savage during all these improvements, rather than by any knowledge of the principles of its flight, he would soon learn to control and utilise these movements so as to make the weapon return towards him after it had done its work in the air.

But this last stage of improvement, so far as we at present know, was effected in Australia only, and not in those countries into which in its simpler form it had been previously distributed by the migration of tribes. Now it has been argued that because the Egyptian, African, and Dravidian boomerangs have not this property of being made to return to the thrower, they were therefore independent inventions. To this argument I cannot assent. If it is admitted as a valid argument in the case of the boomerang, it must be applied also to other missiles under similar conditions of occurrence in other parts of the world. When the English and the Russians first met each other during the Crimean War, the former were armed with the rifle-musket, the latter with a smooth-bore musket which was equivalent to

the English Brown Bess. The result—as I am in a position to know from having been intimately connected with the experiments which led to the introduction of the rifle-musket in this country, and having likewise been a witness to its first application in the field—greatly contributed to the success of the English over the Russians at their first meeting. But applying the argument under consideration to this case, it should be held that because the rifle-musket was not Brown Bess, the one having a rotating projectile and the other not having that property, therefore firearms were independently invented in England and in Russia. But we know better than to make any such statement. We know that firearms in Europe had a common origin, and that the rifle-musket was merely a development upon Brown Bess, which the English happened at that time to have adopted whilst the Russians had not.

These, then, constitute the main points which I have advocated in assuming that the boomerang, being a weapon of very primitive construction, and its present distribution being coincident with the distribution of some of the black races of man,—viewing the conservatism of savage people, and the enormous time requisite for the acceptance of new ideas in a primitive condition of society, it may with great probability be regarded as one of those weapons which primeval men carried with them into distant parts from the home of their ancestors, wherever it was—possibly from some continent in the Indian Ocean now submerged.

It is, of course, a theory which, like most anthropological problems relating to the unknown past, is open to doubt and criticism. But I think I am justified in asking that my critics, whoever they may be, should at least read what I have written on the subject. I allude more particularly to the observations of Mr. Brough Smyth, in his work on the "Aborigines of Victoria." As an Australian colonist he is of course entitled to be looked upon as an authority in speaking of the weapons of the aborigines of that country, but as he has evidently not seen the boomerang of the other countries referred to, he is not equally entitled to pronounce judgment on the general question. Referring to my brief remarks on the boomerang in my address to the Anthropological Department of the British Association, he has put himself to the pains of picking my observations to pieces in detail. But it was not possible to condense into a few short lines, making a brief allusion to previous writings, anything calculated to stand the test of criticism of that kind. To do justice to the subject he should have referred to my previous papers on the subject, some of the arguments in which it is the object of the present communication to reproduce in an abridged form. Had he done so he would have found that I had there

considered most of the points to which allusion is made in his work. He assumes that I had only seen the simpler forms of the Australian boomerang; but in my previous papers I refer, I believe, to all the various kinds of the weapon which he describes, and give illustrations of some of them. He supposes that I had never seen the weapon used by natives, but in the papers in question I make mention of the practice of the Australians who were exhibiting the use of their weapons in England at that time, and whose performances I had studied with attention.[1] Supposing, as so many others have done, that the Egyptian boomerang was a round bent stick, he says that no doubt a slight tendency to return might be obtained from such a weapon;[2] but I doubt extremely whether, with a simple round bent stick, even the first idea of a return flight could have suggested itself, and certainly I have never said so. I think, however, the figures in the plate will suffice to show that the Egyptian boomerang is not merely a bent stick, but a real flat boomerang. It is in what I call the third stage of development, and therefore its affinity to the returning boomerang of the Australians is greater than has been supposed.

Description of Plate XIV.

Figs. 1–4, Egyptian boomerangs of wood in the Boulak Museum at Cairo. Fig. 5, bone ditto in the Boulak Museum. Fig. 6, wooden boomerang from Thebes (Pitt Rivers collection). Fig. 7, wooden boomerang from Thebes in the British Museum, having on it the cartouche of Rameses the Great, represented in the woodcut A of the text. Fig. 8, wooden boomerang, in the British Museum, from Thebes, with ornamentation similar to figs. 6 and 7. Fig. 9, wooden boomerang, in the British Museum, from Thebes. Fig. 10, wooden [illegible] enlargement only at one end, in the L[illegible] 11 and 12, African boomerangs, called trombush, in the Ethnographical Museum at Copenhagen.

[1] It is worthy of observation that although these natives, when exhibiting in this country, produced the most marvellous flights with the boomerang, using it as a toy, they never to my knowledge attempted to employ it as a weapon of precision. I should like to know how many animals a native in his own country will kill in a day with this weapon, by striking them in the return flight, and under what circumstances and for what purposes the return flight is employed. This question of precision, however, is entirely beside the question of origin.

[2] "It is quite possible, as Colonel Lane Fox states, to get some sort of return flight if a *crooked stick* be thrown into the air, but the wonguin of the Australians is something more than a *crooked stick*," "the flat leaf-like weapon of the Australians differs essentially from the Egyptian *crooked stick*."—("The Aborigines of Victoria," vol. i, pp. 322, 323.)

Mr. W. L. DISTANT exhibited, on belief of Mr. Mark Hutchinson, a large collection of copies of Bushman drawings, and communicated the following notes:—

NOTES *on a* COLLECTION *of fac-simile* BUSHMAN DRAWINGS.

By MARK HUTCHINSON, Esq.

THE originals of these drawings were found in a series of caves at a great elevation on the Drakensberg Mountains, Natal, South Africa. The *fac-similes* are the result of three separate visits to the caves, and are copied with the greatest care, so as to represent faithfully the defects, as well as the merits, of the originals. Especial care has been taken by myself and son to avoid giving any feeling of our own, and to reproduce with absolute accuracy the drawing and colouring of the Bushmans.

There is no particular reason to believe that the originals are of any great age. They are painted on the rocks forming the sides of the caves, and it is known that the caves were inhabited by Bushmans within the last twenty years.

The pigments used are apparently earths, stones, and blood, ground up with fat. It is not known what description of brush was used. The drawings are evidently the work of many different hands, of varied degrees of skill. Many are suggestive of being boys' work, and are very rude and careless.

The drawings differ much in aim and character. A large proportion are of the caricature class, rudely, but very spiritedly, drawn in black paint.

I have made a point of obtaining good specimens of each representative class. The only class I have omitted is that of an obscene character, which is not a large one. The class representing fights and hunts is a large and interesting one. It will be noticed that many of the drawings are representative of figures and incidents among white people, also of other native tribes. Some even suggest actual portraiture. The ornamentation of the head-dresses (feathers, beads, tassels, &c.) seems to have claimed much care, and to have given the native artist great pleasure in delineation.

The higher class of Bushman drawings will be seen to indicate correct appreciation of the actual appearance of objects, and evinces very remarkable powers of observation and skill in delineation. Perspective and foreshortening are found correctly rendered. One of the drawings, "Hind view of an ox, or eland," is so remarkable in this respect as to suggest being a lesson or illustration given to a student.

It will be interesting to compare their realisations in respect

of perspective and foreshortening with those of other aboriginal or early artists (*e.g.*, early Greeks, Egyptians, Aztecs, &c.).

The best example in drawing and colouring is the large hunted eland; I copied this one with specially scrupulous fidelity. I found the drawing so remarkable that I procured a very careful examination and verification of it and my copy, on the spot, from a professional artist (Mr. Edwin Rawlins, formerly of London), who decided that, though substantially accurate, a slight advantage in spirit of outline still remained in the original. It will be seen that shading occurs in this example. There is no attempt at texture or effects of light in this or any other case.

Mr. R. Day, F.S.A., exhibited a very fine jade adze, from New Zealand; a thin jade axe, pierced with two holes, from Wanganui, N.Z.; a jade Mere, or pattoo-pattoo, taken from a Maori during the war of 1871–5; and an ivory celt, found in Island Magee, co. Antrim, Ireland, exhibited on behalf of Lieut.-Colonel Abbott.

November 14th, 1882.

Hyde Clarke, Esq., *Vice-President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

For the Library.

From W. L. Distant, Esq.—Beiträge zur Zoologie, gesammelt auf einer Reise um die Erde. Dritte Abhandlung: Menschen-Raçen. By Dr. F. G. F. Meyen.

From D. C. F. Moodie, Esq.—The Victorian Review. No. 32.

From Dr. Emil Holub.—Separat-Abdruck aus der Augsburger Allgemeinen Zeitung, vom 2, 3, und 4, September, 1882. By O. Kienitz.

From the Author.—Gli Angoli dati dal Goniometro faciale laterale sono da correggere. By E. Regalia.

—— Separat-abdruck aus dem Berichte über die Versammlung österreichischer Anthropologen und Urgeschichtsforscher am 12 und 13 August, 1881; zu Salzburg. By Professor Schaaffhausen.

—— The Assyrian Numerals. By G. Bertin.

From the AUTHOR.—Die Engländer in Süd Afrika. By Dr. Emil Holub.

—— Dr. Holub's Ausstellung. Katalog der im Pavillon des Amateurs im k. k. Prater ausgestellten Objecte. 1 Theil. Der Mensch.

—— Su gli Elefantí Fossili della Valle del Liri. By Giustiniano Nicolucci.

—— Crania Pompeiana. By Giustiniano Nicolucci.

—— Sopra i Teschi Umani rinvenuti negli scavi dell'antica città di Metaponto in Provincia di Basilicata. By Giustiniano Nicolucci.

—— I primi Uomini: Studio Antropologico. By Giustiniano Nicolucci.

—— Unwritten History, and how to read it. By John Evans, D.C.L., LL.D., F.R.S.

—— Die Colonisation Afrikas. Heft 4. By Dr. Emil Holub.

—— Elephanten-Jagden in Süd Afrika. By Dr. Emil Holub.

—— Charles Robert Darwin. Ein Nachruf. By Professor Schaaffhausen.

—— Alttrojanische Gräber und Schädel. By Professor Virchow.

From the ITALIAN ANTHROPOLOGICAL SOCIETY.—Archivio per l'Antropologia e la Etnologia. Vol. XII, Fas. 1, 2.

From the GOVERNMENT OF THE PUNJAUB.—Appendix to "Changars" and Linguistic Fragments. By G. W. Leitner, LL.D.

—— Section I of Linguistic Fragments. By G. W. Leitner, LL.D.

From the ANTHROPOLOGICAL SOCIETY OF LYONS.—De l'Alimentation chez les Peuples Sauvages et les Peuples Civilisés. By Dr. Paul Cazeneuve.

—— L'Homme Criminel comparé a l'Homme Primitif. By Dr. Lacassagne.

From the ANTHROPOLOGICAL SOCIETY OF BERLIN.—Zeitschrift für Ethnologie, 1882. Heft 2–4.

From the UNIVERSITY OF TOKIO.—The Chemistry of Saké-Brewing. By Professor R. W. Atkinson.

From the ACADEMY OF SCIENCES, KRACOW.—Lud. Serya XIV. Część VI.

—— Pamiętnik Akademii Umiejętności w. Krakowie. Tom. VI.

From the KONGL. VITTERHETS HISTORIE OCH ANTIQVITETS AKADEMIEN (STOCKHOLM).—Antiqvarisk Tidskrift för Sverige. Del. I–IV, V, 1–3; VI, 1, 2, 4.

—— Akademiens Månadsblad årg. 1872–81.

—— Hildebrand, B.E. and Hildebrand, Hans.—Teckningar ur Svenska Statens Historíska Museum. Heft 1, 2.

From the BATAVIAN ASSOCIATION OF ARTS AND SCIENCES.—Realia: Register op de Generale Resolutiën van het Kasteel Batavia. 1632–1805.

—— Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen. Deel XLI, 2, 3; XLII, 1; XLIII.

—— Notulen van de Algemeene en Bestuurs-Vergaderingen van het Bataviaasch Genootschap. Deel XVIII, 1–4; XIX, 1–4.

From the BATAVIAN ASSOCIATION OF ARTS AND SCIENCES.—Tijdschrift voor Indische Taal-, Land-en Volkenkunde. Deel XXVI, Afl. 2–6; XXVII, 1–5.

—— Tabel van Oud-en Nieuw-Indische Alphabetten. By R. F. Holle.

From the GOVERNMENT OF MADRAS.—Administration Report of the Government Central Museum for the year 1881–2.

From the CEYLON BRANCH OF THE ROYAL ASIATIC SOCIETY.—Pānini's eight books of Grammatical Sūtras. Edited by W. Goonetilleke.

From the AMERICAN ANTIQUARIAN SOCIETY.—Phonetics of the Kayowē Language. By Albert S. Gatschet.

From the ASSOCIATION.—Journal of the Royal Historical and Archæological Association of Ireland. January, 1882; April, 1882; July, 1882.

—— Proceedings of the Geologists' Association. April, 1882.

—— Journal of the East India Association. Vol. XIV, Nos. 3, 4.

—— Report and Transactions of the Devonshire Association for the Advancement of Science, Literature, and Art. Vol. XIV.

From the ACADEMY.—Atti della R. Accademia dei Lincei. Vol. VI, fas. 13, 14.

—— Sitzungsberichte der K.-Kaiserlichen Akademie der Wissenschaften, Wien. Philos-Histor. Classe. Jahrgang, 1881, 98 Band, Heft 3; 99 Band, Heft 1, 2. Math.-Naturw. Classe. I, Abthlg., 1881, Nos. 5–10; II, Abthlg., 1881, Nos. 5–10; 1882, Nos. 1, 2; III. Abthlg., 1881, Nos. 3–10.

—— Bulletin de l'Académie Impériale des Sciences de St. Pétersbourg. Tom. XXVIII, No. 2.

From the INSTITUTE.—Transactions and Proceedings of the New Zealand Institute. Vol. XIV, 1881.

—— Proceedings of the Royal Colonial Institute. Vol. XIII.

From the INSTITUTION.—Journal of the Royal United Service Institution. Nos. 116, 117.

—— List of Foreign Correspondents of the Smithsonian Institution. Corrected to January, 1882.

From the CLUB.—Transactions of the Epping Forest and County of Essex Naturalists' Field Club. July, 1882.

—— Proceedings of the Berwickshire Naturalists' Field Club. Vol. IX, No. 3.

From the UNIVERSITY.—University of Durham College of Medicine, Newcastle-upon-Tyne. Prospectus for Sessions 1882–3.

From the SOCIETY.—Bulletins de la Société d'Anthropologie de Paris, 1882. Mars et Avril.

—— Journal of the Society of Arts. Nos. 1545–1564.

—— Proceedings of the Royal Geographical Society, 1882. July–November.

—— Proceedings of the Royal Society. Nos. 220, 221.

—— Proceedings of the Asiatic Society of Bengal, 1882. April-June.

—— Transactions of the Royal Society of Literature. Vol. XII, Part 3.

From the SOCIETY.—Bulletin de la Société de Borda, Dax. 1882. Parts 2, 3.
—— Journal of the Royal Asiatic Society. Vol. XIV, Parts 3, 4.
—— Mittheilungen der k. k. Geographischen Gesellschaft in Wein, 1881.
—— Transactions of the Asiatic Society of Japan. Vol. X, Part 1.
—— Report and Proceedings of the Royal Society of Tasmania, 1880.
—— Boletim da Sociedade de Geographia de Lisboa. 2ª Serie, Nos. 11, 12; 3ª Serie, Nos. 1–4.
—— Annual Report of the Leeds Philosophical and Literary Society, 1881–2.
—— Proceedings of the Society of Antiquaries of London. Vol. VIII, No. 5.
—— Bulletin de la Société d'anthropologie de Lyon. No. 1.
—— Bolletino della Societá Africana d'Italia, 1882. Fas. 1–3.
—— Mittheilungen der Anthropologischen Gesellschaft in Wien. Band XI, Hefte 3, 4; Band XII, Hefte 1, 2.
—— Einundzwanzigster Bericht der Oberhessischen Gesellschaft für Natur-und Heilkunde.
—— Journal of the Asiatic Society of Bengal. Nos. 247, 248.
—— Bulletin de la Société Impériale des Naturalistes de Moscou. 1881. No. 4.
—— Table Générale et Systematique des Matières, contenuès dans les premiers 56 volumes (années 1829-1881) du Bulletin de la Société Impériale des Naturalistes de Moscou.
—— Transactions and Proceedings of the Geographical Society of the Pacific, 1881.
—— Vierter Jahresbericht des Vereins für Erdkunde zu Metz, pro 1881.
—— Journal of the Ceylon Branch of the Royal Asiatic Society. Vol. VII, Part 2.
—— Bulletin de la Société des Sciences Naturelles de Neuchatel. Tom. XII, Part 3.
—— Proceedings of the Society of Biblical Archæology, 1881-2.
From the SECRETARY GENERAL.—Quatrième Congrès International d'Hygiène et de Démographie a Genève, 1882. Programme.
From the CONDUCTOR.—The Scientific Roll. August, 1882.
From the EDITOR.—"Nature." Nos. 661–680.
—— Revue Scientifique. Tom. XXX, Nos. 1–20.
—— Bulletino di Paletnologia Italiana. No. 6, 1882.
—— Revue d'Anthropologie. Nos. 3, 4, 1882.
—— The American Antiquarian. July, October, 1882.
—— Correspondenz-Blatt. July, August, September, 1882.
—— Timehri. Vol. I, Part 1.
—— The Field Naturalist and Scientific Student. Nos. 2–4.

The following new members were announced :—

Baron JOSEPH DE BAYE; EDWARD BERDOE, Esq., M.R.C.S.; Rev. R. H. CODRINGTON, M.A.; Colonel H. W. KEAYS-YOUNG; and J. WICKHAM LEGG, Esq., F.R.C.P.

Mr. R. W. FELKIN exhibited a Darfur boy brought to England by him in 1879, and made the following remarks :—

Suleiman Capsune, aged about eleven years, belongs to the Fur tribe of Central Africa. His birthplace was about 15 miles south-south-west of Dara. He was caught and made a slave when about six years old, his father and three brothers being killed in his defence. He is an intelligent sharp boy, and learns quickly, but has a tendency to spell and write backwards. This I think noteworthy, as his father had been taught to write and read Arabic. The Fur tribe is noted for being a warlike one, and, according to Arab statistics, numbers about one million. The cuts on the boy's face are not tattoo but slave marks. I have no further information about this tribe to offer to the Institute on this occasion, but have brought the boy here to-night as I may not have another opportunity of introducing him to the members.

Mr. FRANCIS GALTON exhibited an apparatus for testing the delicacy of the muscular sense, and read the following paper :—

On APPARATUS *for* TESTING *the delicacy of the* MUSCULAR *and other* SENSES *in different persons.* By FRANCIS GALTON, F.R.S.

I SUBMIT a simple apparatus that I have designed to measure the delicacy of the sensitivity of different persons, as shown by their skill in discriminating weights, identical in size, form, and colour, but different in specific gravity. Its interest lies in the accordance of the successive test-values with the successive graduations of a true scale of sensitivity, in the ease with which the tests are applied, and in the fact that the same principle can be made use of in testing the delicacy of smell and taste. I use test weights that would mount, in a series of "just perceptible differences," to an imaginary person of extreme delicacy of perception. The lowest weight is heavy enough to give a decided sense of weight to the hand when handling it, and the heaviest weight can be handled without any sense of fatigue. Their value being calculated according to Weber's law, they run in a geometric series—thus, WR^0, WR^1, WR^2, WR^3, &c.,—and they bear, as register marks, the values of the successive indices 0, 1, 2, 3, &c. It follows that if a person can just distinguish between any particular pair of weights, he can also just distinguish between any other pair of weights, whose register marks differ by the same amount. Example :—suppose A can just distinguish between the weights bearing the register marks 2 and 4, then it follows, from the construction of the apparatus, that he can just distinguish between those bearing

the register marks 1 and 3, or 3 and 5, or 4 and 6, &c., the difference being 2 in each case. There can be but one interpretation of the phrase that the dulness of muscular sense in any person, B, is twice as great as in another person, A. It is that B is only capable of perceiving one grade of difference, where A can perceive two. We may of course state the same fact inversely, and say that the delicacy of muscular sense is twice as great in A as in B; similarly in all other cases of the kind. Conversely, if having known nothing previously about either A or B, we discover on trial that A can just distinguish between two weights, such as those bearing the register marks 5 and 7, and that B can just distinguish between another pair, say, bearing the register marks 2 and 4, then since the difference between the marks in the latter case is twice as great as in the former, we know that the dulness of the muscular sense of B is exactly twice that of A. Their relative dulness, or, if we prefer to speak in inverse terms, and say their relative sensitivity, is determined quite independently of the particular series of weights used in testing them. It will be noted that the conversion of results obtained by the use of one series of test weights into what would have been given by another series, is a piece of simple arithmetic, the fact ultimately obtained by any apparatus of this kind being the "just distinguishable" fraction of real weight. In my own apparatus, the unit of weight is 2 per cent., that is to say, the register mark 1 means 2 per cent.; but I interpolate weights in the earlier part of the scale that deal with half-units, that is, with differences of 1 per cent. In some other apparatus, the unit of weight might be 3 per cent., then three of my grades would be equal to two of the other, and my scale would be converted to the other scale by multiplying it by two-thirds. Thus the results obtained by different apparatus are strictly comparable.

A sufficient number of test weights must be used in the trials to eliminate the influence of chance. It might be thought that by using a series of only five weights, and requiring them to be sorted into their proper order by the sense of touch alone, the chance of accidental success would be too small to be worth consideration. It might be said that there are $5 \times 4 \times 3 \times 2$, or 120 different ways in which five weights can be arranged, and as only one is right it must be 120 to 1 against A. But this is manifold too high an estimate, because the 119 possible mistakes are by no means equally probable. When a person is tested, an approximate value for his grade of sensitivity is rapidly found, and the inquiry becomes narrowed to finding out whether he can surely pass a particular level. At this stage of the inquiry there is little fear of a gross mistake.

He is little likely to make a mistake of double the amount in question, and it is almost certain that he will not make a mistake of treble the amount. In other words, he would never be likely to put one of the test weights more than one step out of its proper place. If he had three weights to arrange in their consecutive order, 1, 2, 3, there would be $3 \times 2 = 6$ ways of arranging them. Of these he would be liable to the error of 1, 3, 2, and of 2, 1, 3, but he would hardly be liable to such gross errors as 2, 3, 1, or 3, 2, 1, or 3, 1, 2. Therefore, of the six permutations in which three weights may be arranged, three have to be dismissed from consideration, leaving three cases only to be dealt with, of which two are wrong and one is right. For the same reason there are only four reasonable chances of error in arranging four weights, and only six in arranging five weights, instead of the 119 that were originally supposed; these are—

1, 2, 3, 5, 4;	1, 3, 2, 4, 5;	1, 3, 2, 5, 4;
2, 1, 3, 4, 5;	2, 1, 3, 5, 4;	2, 1, 4, 3, 5.

But exception might be taken to two even of these, namely, those that appear in the third column, where 5 is found in juxtaposition with 2 in the first case, and 4 with 1 in the second. So great a difference between two adjacent weights would be almost sure to attract the notice of the person who was being tested, and make him dissatisfied with the arrangement. Considering all this, together with the convenience of carriage and manipulation, I prefer to use trays, each containing only three weights, the trials being made three or four times in succession. In each trial there are 3 possibilities, and only 1 success; therefore, in three trials, the probabilities against uniform success are as 27 to 1, and in four trials as 81 to 1.

Values of the Weights.

After preparatory trials, I adopted 1,000 grains as the value of W, and 1,020 as that of R. I made the weights by filling blank cartridges with shot, wool, and wads, so as to distribute the weight equally. I closed the cartridges with a wad, turning the edges over it with the instrument well known to sportsmen. On the wad by which each of them was closed, I wrote the corresponding value of the index of R, to serve as a register number. Thus, the cartridge whose weight was WR^4 was marked 4. The values were so selected that there should be as few varieties as possible. There are thirty weights in all, but only ten varieties, whose register numbers are respectively 0, 1, 2, 3, $3\frac{1}{2}$, $4\frac{1}{2}$, 5, 6, 7, 9, 12. The reason of this was to enable the weights to be interchanged whenever there became reason to

suspect that the eye had begun to recognise the appearance of any one of them, and that the judgment might be influenced by that recognition, and cease to be wholly guided by the sense of weight. We are so accustomed to deal with concurrent impressions that it is exceedingly difficult, even with the best intention of good faith, to ignore the influence of any corroborative impression that may be present. It is therefore right to take precaution against this possible cause of inaccuracy. The most perfect way would be to drop the weights, each in a little bag or sheath of light material, so that the operator could not see the weights, while the ratio between the weights would not be sensibly changed by the additional weight of the bags.

Arrangement of the Weights.

The weights are placed in sets of threes, each set in a separate shallow tray, and the trays lie in two rows in a box. Each tray bears the register marks of each of the weights it contains. It is marked boldly with a Roman numeral, showing the difference between the register marks of the adjacent weights. This difference indicates the grade of sensitivity that the weights in the tray are designed to test. Thus, the tray containing the weights WR^0, WR^3, WR^6, is marked as in fig. 1, and that which contains WR^2, WR^7, WR^{12}, is marked as in fig. 2.

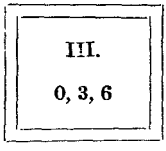


FIG. 1.

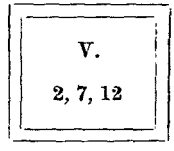


FIG. 2.

The Roman numerals in the following tables show the order of the arrangement of the trays in the box:—

Just perceptible ratio.	Grade of sensitivity.	Sequences of weights.	Just perceptible ratio.	Grade of sensitivity.	Sequences of weights.
1·020	I.	1, 2, 3	1·030	I½	2, 3½, 5
1·040	II.	3, 5, 7	1·050	II½	2, 4½, 7
1·061	III.	0, 3, 6	1·071	III½	0, 3½, 7
1·082	IV.	1, 5, 9	1·082	IV½	0, 4½, 9
1·104	V.	2, 5, 7	1·127	VI	0, 6, 12

The triplets they contain suffice for ordinary purposes, but it will be observed that sequences of a half can also be obtained,

and, again, that it is easy to select doublets of weights for coarser tests in medical cases of deficient sensibility up to a maximum difference of XII.

Manipulation.

A tray is taken out, the three weights that it contains are shuffled by the operator, who then passes them on to the experimentee. The latter sits at ease, with his hand in an unconstrained position, and lifts the weights in turn between his finger and thumb, the finger pressing against the top, the thumb against the bottom of the cartridge. Guided by the sense of weight alone, he arranges them in the tray in what he conceives to be their proper sequence. He then returns the tray to the operator, who notes the result; the operator then re-shuffles the weights, and repeats the trial. It is necessary to begin with coarse preparatory tests, to accustom the operatee to the character of the work. After a minute or two the operator may begin to record results, and the testing may go on for several minutes, until the hand begins to tire, the judgment to be confused, and blunders to arise. Practice does not seem to increase the delicacy of perception after the first few trials so much as might be expected.

The tests show the sensitivity at the time they are made, and give an approximate measure of the discrimination with which the operatee habitually employs his senses. It does not measure his utmost capacity for discrimination, because the discriminative faculty admits of education. However, the requirements of everyday life educate all our faculties in some degree, and I have not found the performances with test weights to improve much after a little familiarity with their use.

I did not at first find it at all an easy matter to make test weights so much alike as to differ in no other appreciable respect than in their specific gravity, even though I used the machine-made cartridge cases. Two bodies may be alike in weight and outward appearance, and yet behave differently when otherwise mechanically tested, and consequently when they are handled. For example, take two eggs—one raw and the other hard-boiled—and spin them on the table; press the finger for a moment upon either of them, whilst it is still spinning. If it be the hard-boiled egg it will stop as dead as a stone; if it be the raw egg, after a little apparent hesitation, it will begin again to rotate. The motion of its shell had alone been stopped, the internal part was still rotating, and this compelled the shell to follow it. Owing to this cause, when we handle the two eggs the one feels "quick," and the other

does not. Similarly with the cartridges, when one is rather more loosely packed than the others, the difference is perceived on handling them, and the knowledge so acquired vitiates future judgments in various indirect ways. A cartridge may have one end heavier than the other, or else its weight may not be equally distributed round its axis, so as to cause it to rest on the table with the same part always lowermost; and these differences also are easily perceived when handling them.

Again, two cartridges may balance perfectly in all directions, and yet their weight may be disposed too much towards the ends, as in a dumb-bell, or gathered too much towards the centre. The period of oscillation will differ widely in the two cases, as may be shown by suspending the cartridges by strings round their middles, so that they shall hang horizontally, and then, by a slight tap, making them twirl to and fro round the string as an axis. The touch is very keen in distinguishing all these peculiarities. I have mentioned them to show that experiments on sensitivity have to be made in the midst of pitfalls, warily to be avoided. Our apparently simplest perceptions are very complex; we hardly ever act on the information given by only one element of one sense, and our sensitivity in any desired direction cannot be rightly determined, except by carefully devised apparatus, judiciously used.[1]

The trials I have as yet made on the sensitivity of different persons confirm the reasonable expectation that it would, on the whole, be highest among the intellectually ablest. At first, owing to my confusing the quality of which I am speaking with that of nervous irritability, I fancied that women with delicate nerves who are distressed by noise, sunshine, &c., would have acute powers of discrimination. But this I found not to be the case. In morbidly sensitive persons, both pain and sensation are induced by lower *stimuli* than in the healthy, but the number of just perceptible grades of sensation between the two is not necessarily altered.

I found, as a rule, that men have more delicate powers of

[1] *Note by the Author, March*, 1883.—The sense of muscular effort may be isolated from the sense of touch by holding the test object in the extended hand, palm uppermost, while the back of the hand rests on the padded bars of a stirrup which is suspended from a string. The string passes over pulleys, and is attached to a weight sufficient to urge the stirrup upwards with the same force that the test object urges the hand downwards. At this moment no muscular effort is exerted to sustain the test object, but let the stirrup be suddenly depressed, and then, without any alteration of the sense of touch in the palm of the hand, a sudden sense of effort is called into existence to supply the loss of support. The fact of the soft and broad pressure having been removed from the back of the hand does not affect the judgment; it is so different in locality and in quality to the sense of effort that it is unobserved while the attention is fixed on the latter.

discrimination than women, and the business experience of life seems to confirm this view. The tuners of pianofortes are men, and so, I understand, are the tasters of tea and wine, the sorters of wool, and the like. These latter occupations are well-salaried, because it is of the first moment to the merchant that he should be rightly advised on the real value of what he is about to purchase or to sell. If the sensitivity of women were superior to that of men the self-interest of merchants would lead to their being always employed, but as the reverse is the case the opposite supposition is likely to be the true one.

Blind persons are reputed to have acquired, in compensation for the loss of their eyesight, an increased acuteness of their other senses. I was therefore curious to make some trials with my test apparatus, and I was permitted to do so on a number of boys at a large educational blind asylum, but found that, although they were anxious to do their best, their performances were by no means superior to those of other boys. It so happened that the blind lads who showed the most delicacy of touch, and won the little prizes I offered to excite emulation, barely reached the mediocrity of the sighted lads of the same ages whom I had previously tested. I have made not a few observations and inquiries, and find that the guidance of the blind depends mainly on the multitude of collateral indications to which they give much heed, and not in their superior sensitivity to any one of them. Those who see do not care for so many of these collateral indications, and habitually overlook and neglect several of them. I am convinced, also, that not a little of the popular belief concerning the sensitivity of the blind is due to occasional exaggerated statements that have not been experimentally verified.

Mr. GALTON hoped that the apparatus he had described might serve as a basis of discussion as to the instruments best adapted to form part of an anthropometric laboratory, intended to deal with the measurement of the various human faculties, so far as it was feasible to do so.

DISCUSSION.

Professor CROOM ROBERTSON did not feel competent, at that time, to enter upon the general subject of psychical measurements which Mr. Galton had proposed for discussion, but he had been greatly struck both by incidental remarks of psychological value in the paper, and by the ingenuity and care with which Mr. Galton had devised the apparatus of which special account was given. He wished more particularly to know whether, as the present apparatus was obviously adapted to the testing of "muscular

sense" in its compound form, inclusive of touch, or skin-sensation, it had occurred to Mr. Galton to devise any means for measuring the muscular sense to the exclusion of touch. Though in practice we apprehend weight and other such qualities of matter through muscular organs, which were also tactile, it was not easy to distinguish the two elements of touch and muscular sense proper combined in any case. The difference of opinion prevailing among authorities as to the precise character of the nerve-process involved in our consciousness of the act of putting forth energy by way of muscle did not affect its independence as a real factor of experience. If the element of skin-sensation (passive pressure) could be eliminated by being rendered practically constant, muscular sense might then be tested in its purity. Perhaps Mr. Galton would say whether his attention had been directed to this aspect of the question.

Dr. CAMPS said that he wished to ascertain from the author of the admirable paper just read, Mr. Galton, if he was prepared to maintain his belief in the existence of more than five senses, and that mankind were endowed with a sixth sense which he had termed muscular sense. We had all been taught that mankind were endowed with but five senses, namely, those of sight, of hearing, of smell, of taste, and of touch. For his (Dr. Camps') own part, he was disposed to regard the so-called muscular sense, as only a modification of the sense of touch. Cutaneous or cuticular sensibility had been mentioned by a previous speaker, and on that subject he (Dr. Camps) said there existed a marked difference in different individuals, in regard to the development of the sensibility of the skin. Dr. Weber, whose name had been mentioned by the author of the paper, had invented an instrument—the *æsthesiometer*—by means of which the difference in regard to cutaneous or cuticular sensibility in different individuals could be measured or appreciated. Dr. Brown Sequard, now in Paris, so well known for his researches on the pathology and physiology of the nervous system, had given considerable attention to this subject, by the examination of a large number of persons.

Mr. JOSEPH JACOBS wished to know what arrangements had been made by Mr. Galton to determine the starting-point in his test weights, as this appeared to be 1,000 grains for all subjects. Now the logarithmic law, on which the whole investigation rested, only applies beyond a certain minimum of sensibility: it only applies "over the threshold," as the Germans say. But this threshold differs for each person, and to take the same threshold for all subjects was equivalent to taking one (logarithmic) curve for all, whereas each has a different curve with a differing constant. Unless, therefore, some means had been adopted to obviate this objection the whole method of the investigation would appear to be vitiated. It further seemed hazardous, under the present conditions of woman's social position, to judge the relative capacity for discrimination in the two sexes from the bare fact that women were not employed in some occupations. In one case known to the

speaker, that of sorters of ivory for piano keys, the selectors were almost invariably women.

Mr. GALTON, in reply, admitted that the title of his paper was somewhat inappropriate; he had, in fact, intended to submit other apparatus as well, including a rather delicate instrument he had designed, but not yet made much use of, for determining the delicacy with which different degrees of pressure could be discriminated. By using this in connection with the test weights the influence of the sense of pressure might be got rid of, in the same way that an unknown quantity that enters into two equations can be eliminated. There were yet other instruments that he had intended at first to bring, but, thinking it would be difficult to exhibit them properly all at once, he had at the last moment refrained from bringing them. His apparatus on the table really professed to do no more than deal with the aggregate of the many sensations that concurred in enabling a person to discriminate between two different weights by handling them. Besides these different elements of sensation concerned in the process to which allusion had been made, there was another important one due to the inertia of the weights, as perceived by the pressure upon the thumb and finger while wagging the cartridges to and fro. The geometric series he had used was quite approximate enough when the initial weight is not too near to that which corresponds (in technical phraseology) to "the threshold" of sensation, and when the heaviest weight is not nearly heavy enough to excite fatigue. The numerical values of the middle terms of the scale of sensation come out much the same whether they have been calculated as a simple geometric series, or according to the more complicated formulæ of the investigators who have endeavoured to improve upon the earlier form of Weber's law.

NOVEMBER 28TH, 1882.

Lieut.-General PITT-RIVERS, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From Colonel ALMONTE.—Historia de la Geografía del Perú. Libro 1. By Antonio Raimondi.

——El Departamento de Ancachs y sus Riquezas Minerales. By A. Raimondi.

From the AUTHOR.—On the History of the Archaic Chinese Writing and Texts. By Terrien de Lacouperie, M.R.A.S.

From the STATE BOARD OF HEALTH, MASSACHUSETTS.—Fortieth Report of the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth for the year ending December 31st, 1881.
From the SMITHSONIAN INSTITUTION.—First Annual Report of the Bureau of Ethnology. 1879-80.
From the SOCIETY.—Transactions and Proceedings of the Royal Society of Victoria. Vol. XVIII.
—— Journal of the Society of Arts. Nos. 1565, 1566.
—— Journal of the North China Branch of the Royal Asiatic Society. 1882, Part 1.
From the CONDUCTOR.—The Scientific Roll. No 9.
From the EDITOR.—Matériaux pour l'Histoire de l'Homme. Tom. XIII. 5e, 6e, et 7e liv.
—— Nature. Nos, 681, 682.
—— Revue Scientifique. Tom. XXX, Nos. 21, 22.

The following paper was read by the author:—

On the PEOPLE *and* LANGUAGE *of* MADAGASCAR.

By Dr. G. W. PARKER.

1. *The People of Madagascar.*

THE position of Madagascar on the map of the world is peculiar: for nowhere else do we see so large an island close to a large continent, yet so little connected with it or with any other land. In size it is also exceptional, being by far the largest among all the islands connected with Africa, its length being about 960 miles, and its width varying up to about 300 miles at its widest part. Its east coast, for nearly the whole of its length, is almost a straight line; while the west coast has been variously indented by the action of the current which sweeps down the Mozambique Channel, which divides Madagascar from Africa.

The population of the entire island has been estimated to be from 4,000,000 to 4,500,000; but on this point nothing certain can be stated, because no census of any tribe has yet been taken, and because the population is decimated from time to time by epidemic diseases; while witchcraft, infanticide, inter-tribal wars for cattle- and slave-stealing, and murders, are daily altering the amount of the population.

The chief structural features of this island are the following:—Around the coast is a tract of nearly level, or only gently undulating, country—in many places showing traces of comparatively recent upheaval from below the sea-level; the general altitude of this level tract being less than 100 feet above the

sea-level. Here the climate and the vegetation are tropical, and here too malarial disease and fever ever reside, the only drinking-water obtainable in many places being that from half-stagnant pools on the surface of the soil. This belt of lowlands is from ten to thirty miles in width, and its inner limit is formed by a range of mountains which gradually rise up to the height of nearly 2,000 feet. Between this again and the higher central plateau of the interior there runs a valley, in one place wide enough to allow of the formation of a large lake (*Lake Aldotra*), and of extensive marshes; while this valley is limited on its inner side by the high wall-like side of the central plateau. This plateau averages 4,000 feet above the sea-level, and on it again there arise a great number of mountains—chiefly of volcanic origin—one of which is nearly 9,000 feet in height above the sea.

This peculiar structure of the island causes a corresponding variety in the climates found in the island; there being a tropical climate all round the coast, especially on the west and north-west parts (which the central highlands shelter from the healthy south-east trade-wind), and a sub-tropical or nearly temperate climate everywhere else.

All round the island there is a belt of forest, often splitting into two parts, which enclose fertile valleys teeming with people; and these structural peculiarities of the island also influence the flora of Madagascar.

The native inhabitants of Madagascar are divisible into two distinct classes. To the first class belong the Hovas only, who are of Malay origin, with yellow skins, long straight hair, flat faces, perpendicular (or, rather, re-entrant) profile, and with plenty of energy, but rather treacherous. The second class comprises all the rest of the Malagasy people, and their African origin is shown by their darker skin (often black), woolly hair, and prognathous profile. These are less commercially energetic, but more trustworthy than the Hovas. This second class, for nearly a hundred years, has been constantly receiving a fresh stock of African blood, in the shape of slaves imported from the interior of Africa, a traffic only lately made illegal in the Hova dominions.

The forms of government of the different tribes, speaking generally, are like those found among most savage nations, allegiance being given to some "king" whose sway often extends not farther than a mile or two from his chief (and often his only) town, but whose power is absolute within this little territory, although he is liable to be turned out by some more powerful neighbour. When strong enough he will hand down his power to his son, but more usually the lands forcibly acquired

by one man are, at his death, divided among the sons of his several wives (for the Malagasy are polygamists), who naturally try to "eat each other up," as the Malagasy say.

The Hovas, however—among whom Christian and European influences have been at work for more than half a century—have a totally different form of government: one which, I believe, is unique in the history of the human race. Until A.D. 1860, the form of government already described was possessed by the Hovas also. But when the young Hova king, Radàma II., was assassinated by some of his courtiers, and one of his wives put on the throne as his successor, the family of the present Prime Minister rose into power. The office of "Prime Minister,"[1] although in existence before, derived additional importance as the chief means by which the absolute power of the Hova crown might be held in check; and as this office may never be held by any person of princely rank (lest such *prince* should make himself *king*, his power as Prime Minister being nearly regal), the Hovas are likely to have a succession of queens for many years to come. The Prime Minister for the time being is *ex-officio* husband to the queen, living with her in the palace, and going wherever she goes. This office has been already held by three members of the same family in succession, and will probably become hereditary, or limited to that family only. As the Prime Minister, besides being the queen's husband, is also head-judge, head-general, head-councillor, and, indeed, *factotum* to the Hova queen—there being no appeal from his decision except to her, and even then *only through him*,—and as nearly all the important offices in the State are given only to members of the Prime Minister's family, the Hova Government may be described as *nominally* an absolute monarchy, but *really* an oligarchy, whose head has practically royal power.

The Hovas are the only Malagasy tribe which possesses a distinct code of laws. Most of their laws are copied from our English laws. To discuss these Hova laws here would occupy too much time, but a comparison of the two last codes, published within the last twenty years, enables me to state briefly that the condition of the slaves is improved, slaves now being able to attend school if they like, but liable to be removed at their owners' pleasure; the marriage-tie is made less loose, and marriages are obliged to be registered; divorce is more difficult; criminals, and persons who have been non-suited in a law-court,

[1] Throughout the north and west parts of Madagascar (and perhaps elsewhere) the petty "kings" have invariably a man filling the office of *factotum*, or Prime Minister, under the name of "Landowner," but *only among the Hova tribe* is this official the queen's husband. The Tanàla (a forest tribe) had also a queen until lately, but she had a husband as well as a Prime Minister.

have now the option of working out the money value of the fine, &c., which they cannot pay, either by imprisonment only or by working for the State, their time and labour being valued at a fixed rate. Various Cabinets have been formed among the Hova government officials, in order to help the Prime Minister in transacting state affairs; education is regulated, and made compulsory between the ages of eight and sixteen years; finally, these new laws are more mild than those made during the period when idolatry was the religion of the Hova kings.

The religion of the Malagasy in general is *fetishism;* but, underlying all their ignorance, there is a dim, shadowy idea of a *Being,* or rather a *Something,* superior and more powerful than mere ghosts, able to do them harm or good, as he pleases. They also believe in the life of the spirit ("the essential part of me," as a Malagasy calls it) apart from the body, and able to live after the death of the body. These "ghosts" they believe capable of causing diseases and doing harm in various ways, unless appeased by occasional gifts; hence, wherever a Malagasy may happen to die, even if in war, his body must be brought back to be buried among his friends (he generally builds his intended tomb during his lifetime), otherwise his homeless ghost will be a source of mischief to everybody. In one or two places, wooden idols, roughly carved into the human form, have been seen; but the Hova idols (burned when the present queen professed Christianity) were merely dirty bundles of coloured rags and feathers. The Malagasy are also strong believers in witchcraft and charms.

In consequence of their belief in ghosts and spirit-life (if not actually in the *immortality* of the spirit) the Malagasy pay great respect to tombs and to dead bodies. There are two modes of burial—in the ground and in trees. The latter plan is followed by some of the tribes who inhabit the dense forests, where it is easier to wrap up a dead body in mats and place it in the fork of a tree-bough, to rot there, than to dig and build a grave, as is done elsewhere. When the body is buried in the ground great care is taken (often during the lifetime of the intended occupant himself) to make the grave a durable subterranean chamber, with a stone door, stone walls, and stone slabs for the reception of the bodies; the object of this durability being twofold—to propitiate the ghosts of the dead by the survivors' care of their homes (*i.e.,* of the dead bodies), as well as to enable the friends of the deceased to enter the tomb at the season when the bodies are annually "turned" and wrapped in a fresh grave-cloth. Usually, a number of oxen are killed at the funeral feast, which often lasts several days, their bleaching skulls being ranged, as an ornament, all round

the tomb when finished. These are the two usual modes of burial among the Malagasy; but I do not know whether, in those parts of the island where the Baobab-tree is found, they do or do not follow the custom of their African relatives of excavating sepulchral chambers inside the trunk of this tree.

With regard to internal communication in Madagascar, good roads ought to be made, especially in the north and south direction—in which direction most of the large valleys run: the cost of making them in this direction being comparatively little. Especially ought the chief natural harbours to be connected, by telegraphs as well as by roads, with Antanànarivo. In the transit of goods into or from the interior, the goods might be carried in canoes farther than they are; but between the low belt of land near the coast and the height of 4,000 feet, goods must still be carried on men's shoulders until the roads are made. But when once arrived on the central plateau, the numerous rivers there should be utilised more than they are.

With regard to its communications with other countries, and its friendly relations with them, and the degree in which these are influenced by the physical configuration of the island, time will not suffice for me to say much. It is a compact island, close to Africa on the one side—the Comoro Islands connecting them for trading purposes—and to Mauritius, Bourbon, and many small islands on the other. On the coast are a number of fine estuaries, usually more or less blocked up by sand-bars; but all these rivers, inside their bars, are navigable for small craft far into the interior. And there are also many fine harbours and bays not thus objectionable, notably those of Tamatave (in the centre of the east coast), the rivers Ikòpa and Bètsibòka (in the north), St. Augustine's Bay (in the south-west), and one or two rivers on the southern part of the east coast.

As regards the commercial relations maintained with other countries, Madagascar exports considerable quantities of rice, oxen, and ox-hides, especially supplying Mauritius and Bourbon with beef for food. Natal also has begun to share in this trade, and it would be worth their while if a greater number of merchants would trade with Madagascar. The Hovas have made treaties with the English, French, Americans, and Germans, consuls of these nations being resident in the island. Ere long, Tamatave will probably become a coaling-station for steamers, which will thereby be attracted to that excellent natural harbour. At first, all the coal sold there must be brought from other countries, but sooner or later the present Hova restrictions against mining will have to be abandoned, and then Malagasy coal will be procurable there.

The following is a short sketch of the history of Madagascar up to the present time:—

The island has been known to Europeans only since the beginning of the seventeenth century, although the Arabs traded with Madagascar long before that time. The first Europeans who visited the island were the Portuguese, but they made use of it only as a place where they might re-stock their ships with water and fresh food, and repair them if necessary. The Dutch next came, settling in the neighbouring island of Mauritius (called after their Stadtholder Maurice), but left Madagascar itself alone. Then followed the French and the English. The former nation formed two settlements in Madagascar itself, in the north-east and south-east parts of the coast, besides occupying two islands off its coast, viz. Nòsibè (Big Island; on the north-west) and Ste. Marie (on the north-east). These two islands are still held by the French, but their settlements on the main-land of Madagascar were re-captured by the natives. The English colony was placed at St. Augustine's Bay, on the south-west coast; but from mismanagement it was abandoned. The English also bought some land on the east coast, and formed a settlement there too; but although this also was abandoned (probably on account of the fatal coast-fever), I have nowhere seen it stated that the land was either given back to the natives, or bought back by them, or re-captured. At some future date the English might (as the French most surely would if they had so good a pretext) urge the recovery of this land as the ground for seizing the whole of Madagascar!

When Mauritius fell into the hands of the English (about A.D. 1816), the first English governor of it, Mr. Farquhar, soon turned his attention to the extensive traffic in slaves for which Madagascar was then notorious. This inhuman traffic, it is said, was originated by the pirates, who, haunting the shores of Madagascar until their depredations brought down the fleets of European Powers upon them, betook themselves to slave-trading as a safer way of earning their living. Mr. Farquhar made an alliance with one of the Hova chiefs, Radàma I., whereby Radàma pledged himself to stop the exportation of Malagasy people from the island, by means of arms, &c., to be given him by the English. At the same time, the first English Resident, Mr. Hastie, was placed at Radàma's newly-captured capital, Antanànarivo, and from that time to the present there has been unbroken friendship between the English and the Hovas, except for a short time during the reign of the Christian-persecuting queen, Ranavàlona I.

Radàma was ambitious, overrunning a great part of the island with his annual forays, and depopulating vast tracts of country.

At his death he was succeeded by one of his wives, Ranavàlona I., a woman who was as ambitious and bloodthirsty as her husband, and who killed all rivals for her husband's crown. Her reign was marked by war with England and France, and by the bitter persecution of the native Christians. After a reign of some twenty-five years she was succeeded by her young son, Radàma II., who, however, reigned only six months, being assassinated by some of his nobles, because he was bent on carrying out the so-called "Lambert Treaty."[1] After his death the successful conspirators put on the Hova throne one of Radàma's wives, under the name of Rasohèrina, at the same time giving to the office of "Prime Minister" its present almost regal power, as the means whereby the Hova nobles might prevent their sovereign from again becoming really an absolute monarch. The reign of Rasohèrina was marked by the increase of European influence and civilisation among the Hovas, and the slow but sure growth of the Christian Church. After reigning about ten years she was succeeded by a cousin, the present queen, Ranavàlona II., whose reign has already lasted nearly twelve years. The present reign has been marked by the following events:—(1) the adoption of Christianity as the state religion of the Hovas, with the consequent destruction by fire of all their idols; (2) the rapid progress of education, both religious and secular, and the building of numerous places of worship and schools; (3) the formation of a literature in their own tongue for the natives, including a *revision of the Bible;* (4) the duty of taking care of its sick and poor is being recognised by the Hova state; (5) the reorganisation of the Hova army on a European model; (6) the building of a better class of dwelling-houses, and the adoption of the European dress instead of the native *un*dress.

II.—*On the Malagasy Language.*

The language spoken by the various tribes which inhabit Madagascar is essentially a *spoken* language, no symbols or pictures of the nature of writing having been found; and such it remained until the early part of the present century, when the English missionaries reduced it to its present alphabetic form. The characters then chosen were those of our own English alphabet; consequently we have no strange-looking characters to master when beginning the study of the Malagasy

[1] This was a *secret* agreement made by Radàma while his mother was still reigning, whereby, after her death, he would allow a company of French merchants, headed by a M. Lambert, to cultivate or otherwise use land in any part of Madagascar, on terms which virtually constituted a gift of the whole island to the French.

language, while, on the other hand, a Malagasy finds only familiar characters when he looks into an English or a French book.

The vowel and consonantal sounds found in this language are the following:—

The vowel sounds are four:—

a	pronounced as	*a*	in psalm
e	„	*a*	„ date
i	„	*ea*	„ neat
o	„	*oo*	„ too
	„	*o*	„ oh!

o has this second sound only when used as the sign of a vocative case or in introduced words. *y* represents, at the end of words, the same sound which *i* represents at the beginning or in the middle of words; but, in recent editions of the New Testament, *y* is also used to represent the Greek *upsīlon* in words taken from the Greek.

The simple consonantal sounds are sixteen:—

b	pronounced as	*b*	in bid
d	„	*d*	„ dock
f	„	*f*	„ fat
g	„	*g*	„ gate
h	„	*h*	„ hand
j	„	*dz*	„ adze
k	„	*k*	„ kite
l	„	*l*	„ let
m	„	*m*	„ man
n	„	*n*	„ not
	„	*ng*	„ sing (but never *thus* pronounced among the Hovas).
p	„	*p*	„ pat
r	„	*r*	„ true
s	„	*s*	„ sin
t	„	*t*	„ tan
v	„	*v*	„ vine
z	„	*z*	„ zeal

There only two true diphthongs:—

ai, ay, ei, or *ey* pronounced as *ai* in aye, or eye.
ao .. .. „ *ou* „ proud.

In the combinations *ai* and *ao,* each vowel sometimes keeps its own sound; and there are also the following combinations of vowels, having their sounds kept more or less distinct:—*eo, io, ia, oa, oi* (or *oy*), *oe, aoe,* and *oai.*

In pronunciation, vowels are usually sounded distinctly, rarely elided; and another *i* is sounded (but not written or printed) after *g*, *h*, *k*, *ng*, or *nk*, whenever *i* (or *y*) precedes these consonants.

Of consonantal combinations only the following occur in pure Malagasy words:—

dr, *dz* (i.e., *j*), *tr*, *ts*, *mb*, *mp*, *nd*, *ndr*, *nj*, *ng*, *nk*, *nt*, *ntr*, *nts*.

Consequently the following euphonic changes among consonants are required, in certain cases:—

f is replaced by *p*
h „ *k* or *g*
l „ *b*
v „ *d*
r becomes *dr*, being strengthened by *d*
s „ *ts*, „ „ *t*
z „ *j* (*dz*) „ „ *d*

The following interjections are in common use:—

Expressive of surprise:—*endrày*, *endrè*, *adrè*, *ôdrè*, *hày*, *hànky* =oh! ah!
„ denial:—*ìsy*, *aìsy* (or *èisy*), *àoè*, *sànatrìa* (*sàna trìa*=far be it!)
„ desire:—*anìe*, *ènga kà*, *èndra*, *ànga*=oh that..!
„ calling:—*è* (=eh!), *ô* (=oh!), *rày* (or *rèy*).
„ sorrow:—*indrìsy*=alas!
„ regret:—*indày*, *injày*=would that . . . not . . .!

In the Malagasy language the meaning of words and sentences depends little upon the tone, but very greatly upon accent and on the relative position of words in a sentence, a special discriminative and emphatic particle (*nò*) being also used. For instance, the Malagasy words for *road* and *law* are spelt alike, the accent being the only means of difference; thus: *làlana*, a road; *lalàna*, a law. Again, using the discriminative particle:—*izày mandò nỳ màrina nò manàtona nỳ mazàva*, Who do the right approach the light (i.e., *only those* who act rightly).

With regard to the position of words in a sentence as affecting their relative meaning, there are these six rules of syntax:—

(1) The predicate, in a simple sentence, is usually placed at the beginning.
(2) The object of an active verb follows it immediately, unless an adverb, closely connected with the verb intervenes.
(3) With a passive verb, the adverb, agent, and any closely

connected words follow the verb, the object being placed last in the sentence.

(4) A qualifying adjective follows its noun (as, *trànо tsàra*, a *good* house); unless another noun, closely connected with the first, intervenes.

(5) A possessive case follows its governing noun, unless a closely connected adjective intervenes.

(6) The agent of a passive or a relative verb is always placed immediately after its verb, whether such verb be simple or compound.

Any sentence becomes interrogative by the insertion of one or both of the interrogative particles *mòa, và;* the former being used at or near the beginning of a sentence, the latter at or near the end. Thus, *mòa tsàra ìzy?* or, *tsàra và ìzy?* Is it good?

Of words which are direct imitations of noises, cries of animals, &c., we find several in the Malagasy language; but the percentage of such words, although apparently small, cannot be stated with any accuracy, because the total number of words in any dialect is not yet known.

Examples:—*àko*, echo.
ambòa, dog ("*bow-wow*"). } Nouns.
bìtsibìtsika, whispering.
bìzizìoka, buzzing.
mivòvovòvo, to bark.
mifòfofòfo, to puff-puff.
mivàtravàtra, to patter (as falling rain-drops). } Verbs.
mandòndòna, to knock continually.
mimònjomonjo, to murmur, to grumble.

The grammatical structure of the Malagasy language, considered as a whole, is very regular. A large percentage of the words in it are traceable to *roots*, which are usually verbs (active or passive), adjectives, or nouns; and the numerous derivatives from these roots are also formed in a very regular manner.

The roots are divisible into two classes:—

Primary roots, consisting of one, two, or three syllables (if of three the third always ends in *na, ka,* or *tra*).

Secondary roots, consisting of a primary root coupled with a monosyllabic prefix; twenty-six different prefixes being so used.

A root of either class may be *reduplicated*, in order to express the repetition, the diminution, or (rarely) the augmentation, of the idea conveyed by the root in its single form; but in such cases it is only the primary root which is reduplicated, the pre-

fix never suffering alteration. Diminution or augmentation of the idea conveyed by any word, other than a root, is obtained by the reduplication of the root part of that word, there being no special diminutive or augmentative terminations in Malagasy, and mere changes of tone not altering the meaning.

Particles such as prepositions, pronouns, adverbs, &c., generally stand separately, not being combined with any words, except in the comparatively few cases when they are made into verbs by putting an active prefix before them.

In making words from roots both prefixes and suffixes are used; and changes may be made in the vowels or the consonants, according to certain rules too numerous to be mentioned here.

Thus, from root *àsa*, we get

man-àsa, by using a prefix.
asà-ina, by using an affix.
àn-asà-na, by using both prefix and affix.

Compound words are very common. They are formed by throwing away the last syllable of the former of two words, and then making certain euphonic changes in the consonants or the vowels of the syllables thus brought together. By the mutilation resulting from this contraction, the sense is often made more obscure.

The gender of anything is indicated only by affixing the words *làhy* (male) and *vàvy* (female).

Thus: *akòho*, fowl.
akòho-làhy, male fowl (*i.e.*, cock).
akòho-vàvy, female fowl (*i.e.*, hen).

But there are no terms to show the distinction between animate and inanimate, or to point out the number or the case of either nouns or adjectives.

The numerals, although counted by tens, and usually reckoned on the hand, nevertheless show no traces of derivation from reckoning by fingers and toes. I believe that no special order is followed in counting on the fingers, nor are the Malagasy in the habit of using any other aids to counting. The numbers run from one to a million, although the higher numbers above a thousand are seldom used. *Àlina* (ten thousand), when reduplicated, as *àlinàlina*, means "innumerable; and the word for "a million," *tàpitrìsa*, which literally means "*ended* (are) *the numbers*," shows that any quantity above a million is inconceivable to the mind of a Malagasy. None of the lower numerals have any other meaning than that of the numbers which they signify; and all the numerals seem to have been derived from one source. Numeration goes on by tens up to 90 (= "9 tens"), after which

we find special names for the higher numerals. While for the intermediate numbers (as 11, 12, 21, &c.), and for compound numbers, the Malagasy use a word (*àmby* = addition), corresponding to our sign +, the lowest numbers (contrary to *our* rule) being placed first; thus, 111 is *iràika àmby nỳ fòlo àmby zàto* (literally, "1 + the 10 + 100").

Verbs have only two moods, the *indicative* and the *imperative;* of these two moods the imperative serves also for subjunctive and optative, while the indicative serves for every mood except these three. Each mood has the three simple tenses, present, past, and future; *n-*, or *no-*, being the usual sign of the past tense, and *h-*, or *ho-*, of the future, but no changes are made for gender, number, or person. There are also three voices—active, passive, and relative.

An active verb may be simply a root (either primary or secondary), or a root with some prefix. A passive verb may also be a root of either kind, a root with a prefix *or* a suffix, a root with both prefix *and* suffix, or a root with a prefix having some letters transposed. The latter form is also called a "*transposed passive,*" having the infix *mo-* or *ni,* with the infixed letters transposed. A relative verb is a combination of a root with active and passive particles, retaining part of the active prefix, together with the passive suffix, and showing that some relationship exists between the subject and the object.

The chief peculiarity among personal and possessive pronouns in Malagasy consists in the presence of two forms to express *we, us, ours,* the one including both the speaker and the person spoken to, the other excluding the latter. Contracted or suffixed forms of all these pronouns are also much used; and here also the same distinction with regard to *we,* &c., occurs.

There is only one relative pronoun, which is indeclinable, and is used for any case or gender.

The demonstrative pronouns have separate forms for describing things seen or near, as opposed to things unseen, more distant, or implied in the speaker's mind.

Conjunctions are rather numerous, but most of them have several meanings.

True prepositions are scanty, but their place is supplied chiefly by a large number of prepositional phrases, or compound prepositions, which are formed from nouns by prefixing *a-*, *am-*, *an-*, or *i-*.

Adverbs, especially those of place, are very plentiful. They also have tenses, *t-* being the sign of the past tense of an adverb, as *ho* of its future; and some of them can be made into verbs by putting an active prefix before them.

With regard to the family of languages to which the Malagasy

belongs, it is clearly of Malay origin. The affinity of the Malagasy language to those which form the Malayo-Polynesian group has been well examined by the Rev. W. E. Cousins, in a paper read before the Philological Society on February 15th, 1878; but it is still a puzzle to us how Madagascar (contrary to the usual rule) got its inhabitants from the neighbouring continent of Africa, but its language from the far distant Malayan peninsula.

One of the most reasonable theories hitherto propounded for the solution of this problem is that of Dr. Hildebrand, a German naturalist, who recently died in Madagascar, after having spent five years in Africa. He thought that (putting aside the question of still earlier inhabitants of Madagascar) the Hovas (a Malay race) had first settled in the island, but were overpowered by marauders from Africa, who killed off most of the Hova men, but took the Hova women for wives; hence the resulting children learned more of the language of their mothers than that of their fathers, especially as they associated most with their mothers.

But the chief objection to this theory is the fact that the native tribes of East Africa are *not* fond of venturing on the sea, much less prone to make such long voyages as that across the Mozambique Channel, even were such a voyage to be made where the Comoro Islands would allow it to be divided into shorter stages. We know that not only the Arabs, but also European pirates from various nations, had much intercourse with the Malagasy; but we have no data (and, perhaps, never shall have any) for calculating the effect of these upon the native population and their language. Were the Hovas once far more numerous than they are now, and did they become so few in number because great numbers of them were killed in the frequent wars or exported from the island as slaves? Or, on the contrary, were the Hovas always comparatively few in number, while the African element of the population has been increased, through the agency of the slave-dealers, by a steady importation of African natives into Madagascar? Or have both of these causes helped to determine the present state of population and language in Madagascar? These are questions which cannot be satisfactorily answered as yet.

With regard to the people who inhabited Madagascar *before* the Hovas, we have no real information. The Hovas themselves assert that they expelled (at least from the province of Imèrina) a tribe called the *Vazìmba*, and also declare that the remnant of this people still exists on the coast in the south-east of Madagascar, their former name of *Vazìmba* having been altered to *Vèzo*. Now as both these words, *Vazìmba* and *Vèzo*, come

from the same root as the word *vèzivèzy*, which means "a wandering about," were these Vazìmba a nomadic and pastoral race, comparatively unwarlike, and so easily expelled by the Hova warriors? The nature of the central provinces of Madagascar, whose wide, undulating grassy plains are well adapted for pasturage, makes this probable, besides the etymology of the word.

In travelling through the central parts of Madagascar we frequently meet with tombs, which are little more than square mounds of earth, but always overshadowed by one or more Fàno-trees,[1] and are regarded by the Hovas with a superstitious awe. These mounds they call "*the Vazìmba's graves*," and the ghost of the occupant is believed to be ever ready to punish any injury done to his sleeping-place, or to the Fàno-tree overshadowing it. If several of these ancient graves were opened and examined, no doubt we should get some clue as to who these Vazìmba were, and perhaps also might find out who preceded the Hovas as inhabitants of Madagascar.

A strange coincidence may here be noticed in connection with those names, *Vèzo* and *Vazìmba*.

1. As most of you know, there are (or have been) *other* nations whose names seem to imply that they are nomadic or wandering tribes, or that they had travelled from a distance to their final place of settlement, such as the well-known *Vandals* and the *Wenns* (or *Venns*), traces of the former being still found in Central Europe.

2. In the Greek, Latin, German, and English languages we find what seems to be a similar root, *ba* or *va*; from which, in each of these four languages, we get derived verbs expressing some form of motion.

Ex.: Greek—*βα*, root of the verb *βαινω*, to go.
Latin—*vādo*, to wander.
German—*wandeln*, to wander.
English—wade, wander.

This coincidence suggests several questions.

How did the Malagasy, a member of the Malayo-Polynesian group of languages, get this root expressing motion, and so closely resembling, both in sound and in sense, a similar root found in Indo-Germanic languages?

Shall we, at some future date, find a "missing link," lost during the course of centuries, connecting the African-Malagasy (or at least these *Vèzo*) with the *Vandals?*

Are any, or all, of the African-Malagasy tribes the descendants of nomadic tribes or nations who formerly occupied the northern

[1] Fàno, a species of *Mimosa*.

parts of Africa, and who gradually worked their way southwards leaving traces of their language or tribal name?

Briefly stated, the influence of foreigners upon the Malagasy language is as follows:—

That of the *Arabs* is seen in the names given to the days of the week, the *Hòva* names of the months, and in many of the terms connected with dress, bed, money (which was used in Madagascar *before* Europeans arrived), music, and many other things.

That of the *English and French* is seen in many abstract, scientific, and architectural terms, and in the names of modern weapons. Above all, the people have gained much from the *translation of the Bible*, and from the reduction of their language to a written form; for both of which advantages they are indebted chiefly to the English missionaries.

Another interesting link, connecting the Malagasy language with the South African tongues, is found in the verb *mamèla* (from root *vèla*), which in the *Sesùto* language, as well as in the Malagasy, means "*to leave behind, to leave alone.*"

In conclusion, the Malagasy language is essentially one throughout Madagascar, the local differences found among the various tribes no more constituting distinct languages than do the provincialisms of the various counties in England affect the unity of the language. The Malagasy language is soft, musical, phonetic (a syllable usually consisting of one vowel with one consonant), and not difficult for a European to acquire, the two chief stumbling-blocks to a European being the uses of the particle *nò*, and of the relative verb; but when once these two things have been mastered, no voice is so convenient or so commonly used as the relative voice. Contrasted with South African dialects, one feature of the Malagasy language is the absence of "clicks," and also of any special prefix to show whether a country, a tribe, a language, or an individual—and if individuals, their number or sex—is mentioned.

Discussion.

Mr. Keane remarked that few questions were more interesting to the anthropologist than the first peopling of Madagascar, and the affinities of its present inhabitants. In the present state of our knowledge it might seem venturesome to hazard any definite theories. But on a review of the whole situation, the most probable view seemed to be that the island was very sparsely inhabited at the time of the first Malay immigration. The absence of the elephant and other large African fauna, besides many other considerations, showed that this region belonged not so much to Africa as to a now banished continent or archipelago in the Indian Ocean,

of which Mauritius, Réunion, the Seychelles, and some other islets may be remnants, and to which some naturalists had given the name of Lemuria. The smaller groups were uninhabited when first discovered by Europeans, and it might be presumed that this hypothetic Oceanic region had on the whole already subsided before the appearance of men on the earth. But many of its islands which have since disappeared may have continued above water till comparatively later times, thus affording more numerous stepping-stones between Malaysia and Madagascar than now exist. On their arrival the Malay intruders would soon extirpate or absorb the few aborigines, and thus from the remotest time that linguistic uniformity would have been established which has ever since continued. But, except amongst the Hovas of the central plateau, possibly representing a still more recent Malay migration, the race became greatly modified by the introduction of negro elements from the neighbouring coast of Africa. These elements arriving at intervals, and mostly no doubt imported as slaves, would in course of time inevitably produce a change of type, such as is now found amongst the Sàkalàvas of the west and Bètsimisàrakas of the east coast. But the language remained practically unaffected by them, because of their inferior social position, and because they became distributed amongst the dominant race as fast as they arrived in small driblets from the mainland. The negro slaves imported under similar conditions into Egypt from time immemorial, later on into Barbary, and recently into the New World, have nowhere been able to preserve their African mother-tongues. In North Africa they rapidly learn Arabic; in America they speak passable English, Spanish or Portuguese, or at any rate jargons of those languages, in which the percentage of African elements is extremely small. In Madagascar they have everywhere changed their harsh guttural dialects, with their clicks and difficult illustrative mechanism, for the relatively simple, harmonious, and easily acquired Malagasy. And thus the great uniformity of speech in this large island ceases to be such a surprising phenomenon as at first sight it appears to be. We have thus no doubt a persistence of language through a great lapse of time, with a considerable modification of the physical type. But the generally accepted principle that physical are more durable than linguistic types is true only where both are unaffected by extraneous influences. Where we have actual contact a different law prevails. The two races become modified by intermixture, while the speech of one or other simply dies out, leaving behind it little trace of its former existence. Thus the Turki peoples have been mostly assimilated to the Caucasic type by contact with the Western nations; but wherever they have held their ground the Turki dialects have preserved their organic structure. So, in Madagascar, the Malay stock has been to some extent assimilated to the negro type; but the Malay dialect originally introduced has not been perceptibly affected by the African tongue, either originally current in the island or subsequently introduced by immigrants from the dark continent. The possible aboriginal speech has simply disappeared;

the Bantù or other African tongues imported later on have failed to gain a footing in the country, or even seriously to affect the Malagasy still everywhere spoken with surprising uniformity throughout the whole island.

Dr. Gustav Oppert said that Madagascar had had from time immemorial an influx of foreign immigrants, the neighbourhood of Africa providing it with a considerable sprinkling of African blood. Later on, Arabs, Chinese, and Europeans settled in the island; but all the colonists, however much they have influenced the ethnological features of Madagascar, left no permanent impression on the vast majority of the original population, which is Polynesian in character.

As in most islands of the Eastern Archipelago, we find also in Madagascar two apparently distinct races: one is short, olive-coloured, with long straight hair; and the other is tall, dark-brownish-coloured, with curly hair. The first has been identified with the Malays, and the latter with the negroes of Africa; the chief representatives of the former are the Hòvas, and of the latter the Sàkalàvas on the west coast. These differences are easily distinguishable, and are important enough to be specially commented upon, but they ought never to be regarded as decisive, for similar deviations occur occasionally in races of indisputable purity, as, *e.g.*, amongst the inhabitants of Carinthia and Styria, amongst the Sclavonians and others. However different the two races in Madagascar appear to be, yet the language spoken throughout the island may be considered as one. In this respect the exhaustive dictionary compiled by Dr. Parker from fourteen different dialects is of great importance.

The language of Madagascar contains, no doubt, a great number of pure Malay words. It is by no means easy to satisfactorily explain the cause of it, for it may either be owing to the close relations which existed, even in prehistoric times, between the Malays and Polynesians, or by Malay immigration into Madagascar, or perhaps by both circumstances contributing to it.

According to the classification of languages which the speaker propounded a few years ago the Malagasy language belongs to the concrete group. It has no abstract terms of relationship; it does not possess a term for the abstract pronoun *we;* it has consequently no gender, does not express number, and exhibits other characteristics of its tendency towards concreteness. So far it coincides with the language of the Malays and of most of the negroes of Africa. However, Malagasy exhibits a characteristic which distinguishes it from the languages spoken by the above-mentioned nations. The latter belong to the homologous group, where males and females speak to and of each other in identical terms; for though they have, *e.g.*, no special word for brother or sister, and can only express the meaning of elder and younger brother or sister, yet both males and females use the same word for these four distinctions. In the heterologous languages males and females use different terms; so does the Malagasy idiom, in common with the Polynesian and many Australian languages. Thus *ràhalàhy* is a brother's brother,

ànadàhy a sister's brother, *ràhavàvy* a sister's sister, and *ànabàvy* a brother's sister; *zàna-dràhalàhy* is the child of a man's brother, *zànak-àina* or *zànak-ànabàvy* the child of a man's sister, *zàna-dràhavàvy* the child of a woman's sister, and *zànak-ànadàhy* the child of a woman's brother.

The speaker did not believe that these four terms, *ràhalàhy*, *ànadàhy*, *ràhavàvy*, and *ànabàvy*, represented the only terms the Malagasy language possesses for expressing the various modifications of brotherhood and sisterhood, and in the dialect spoken in north-eastern Madagascar there occur really two terms respectively for *ràhalàhy* and *ràhavàry*, as *ràkilàhy* and *ràokilàhy* for the former, and *rǒkivàvy* and *raǒkivàvy* for the latter. He presumed the first two applied to the elder and younger brother of a man, and the latter to the elder and younger sister of a woman. It is even probable that there existed originally two special terms for *ànadàhy* and *ànabàvy*, which would complete the list, so that we should have eight separate expressions, as are found in most Polynesian languages.

However this might be, these terms at once give us conclusive evidence for considering the Malagasy language closely connected with the Polynesian idiom. As this subject has been treated at length in the essay on the "Classification of Languages" there is no necessity of further enlarging on it. It is, nevertheless, a triumph to comparative philology that it is able to settle such a point of importance as the original source of the Malagasy language, and therefore also the origin of the Malagasy people.

Mr. Hyde Clarke wished to explain that the principle which Professor Oppert had applied in his system of classification of languages, and of which he had given an example for Malagasy, was an exemplification of a well-known fact recognisable in many languages, and dependent on women using a language separate from men. This, in the case of Malagasy, Professor Oppert had worked out from the old French vocabularies, which he might observe had been published in that most valuable work conducted by the missionaries in Madagascar called the "Antanànarivo Magazine." Mr. Oppert's facts had really been confirmed by the high authority of Mr. Sibree and Mr. Pickersgill, who had given the modern form. As to himself he must observe that he dissented altogether from the theories put forward in explanation of the early population and language of Madagascar, and looked for a solution in another direction.

The Rev. J. Sibree, Mr. Bouverie-Pusey, M. Bertin, the Rev. W. C. Pickersgill, and the President also joined in the discussion.

DECEMBER 12TH, 1882.

M. J. WALHOUSE, Esq., F.R.A.S., *in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From the AUTHOR.—List of Birds observed at Fort Berthold, D.T., during the month of September, 1881. By W. J. Hoffman, M.D.

From the ROYAL SOCIETY OF NEW SOUTH WALES.—New South Wales in 1881. By Thomas Richards, Esq.

From the SOCIETY.—Journal and Proceedings of the Royal Society of New South Wales, 1881.

—— Journal of the Society of Arts. Nos. 1567, 1568.

—— Bulletin de la Société Imperiale des Naturalistes de Moscou. No 1, 1882.

——Proceedings of the Royal Geographical Society. December, 1882.

From the EDITOR.—Revue Scientifique. Tom. XXX. Nos. 23, 24.

—— "Nature." Nos. 683, 684.

—— Bullettino di Paletnologia Italiana. Nos. 7-9.

Mr. A. L. LEWIS exhibited some worked flints from Cape Blanc Nez, near Calais, a site where the manufacture of implements was largely carried on, and concerning which full particulars were placed before the International Congress of Prehistoric Anthropology and Archæology at Brussels, in 1872, by M. E. Lejeune, and are also reported in the "Materiaux pour l'Histoire Primitive et Naturelle de l'Homme," 1872, p. 504, *et seq.*

The following paper was read, in the absence of the author, by the Assistant-Secretary:—

NOTES *on the* AUSTRALIAN CLASS SYSTEMS.

By A. W. HOWITT, Esq., F.G.S.

[WITH PLATE XV.]

I HAVE been led, by a review of the evidence which I have collected as to the customs and social organisation of the Australian aborigines, to the conclusion that the early state of their society was that of an undivided commune. To repeat this evidence would be too long, nor is it necessary to do so for

my present purpose. I start, in now considering the general subject of the class divisions of the Australian communities, from the assumption that there was once an undivided commune. It is, however, necessary to somewhat guard this expression. I do not desire to be understood as maintaining that it implies necessarily the existence of complete communism between the sexes. Assuming that the former physical conditions of the Australian continent were much as they are now, complete communism always existing would, I think, be an impossibility. The character of the country, the necessity of hunting for food, and of removing from one spot to another in search of game and of vegetable food, would necessarily cause any undivided commune, when it assumed dimensions more than that of a few members, to break up, under the necessities of existence, into two or more communes of similar constitution to itself. In addition to this it has become evident to me, after a long acquaintance with the Australian savage, that in the past, as now, individual likes and dislikes must have existed; so that, although there was the admitted common right between certain groups of the commune, in practice these rights would either not be exercised by reason of various causes, or would remain in abeyance, so far as the separated but allied undivided communes were concerned, until on great ceremonial occasions, or where certain periodical gatherings for food purposes reunited temporarily all the segments of the original community. In short, so far as the evidence goes at present, I am inclined to regard the probable condition of the undivided commune as being well represented now by what occurs when on certain occasions the modified divided communes reunite. Each divided commune carries in itself the strongest evidence of this early condition.

In the Australian class systems by which the community, *i.e.*, the tribe in its social aspect, is divided, the true divided communes are represented by the two primary classes, each of which has a group of totem names. The divided commune with its totems may be thus formally represented.

No. 1.

Two classes.	Totem names.
A.	1, 2, 3, &c.
B.	i, ii, iii, &c.

In all cases the totem names are those of things animate or inanimate, as are in many cases also the class names; or it may be even that all the class names have had a meaning, as words signifying animals, &c., which in the change of language has become lost.

The two intermarrying classes, A and B, pre-suppose an original whole—*i.e.*, an undivided commune. In the two classes we have that separation and assumption of animal names which the Dieri legend[1] attributes to an intentional act done by their ancestors at the instance of the "Mura Mura," which in the plural form means the deceased ancestors themselves.[2] This Dieri legend has a remarkable counterpart, which I have found in that Kūlin tribe which formerly occupied the country surrounding Melbourne. This states that the "old law" which directed Būnjil (Eaglehawk) to marry Waa (Crow) only, and *vice versâ*, was given by Būnjil himself to the wizards of the tribe, who in their turn communicated it to the people.

The two primary classes are, over a large part of South-Eastern Australia, distinguished by the names Eaglehawk and Crow, in their dialectic forms.

The totems form two groups, and are the names of animals, birds, fish, reptiles, vegetables, or more rarely other natural objects. The fundamental rule appears to be that each group of totem names is, in fact, a several and collective representation of its primary; therefore, as group A marries with group B, and *vice versâ*, so may, as a general rule, any one of the group of totems marry with any other of the complementary group of totems. In certain localities, however, restrictions have arisen in so far that, taking table No. 1 as an example, an individual, say being A 1, would intermarry with B i only. Theoretically the marriage is of group to group, but in practice it more or less approaches that of individual to individual. In this aspect of the classes it is necessary to point out that all of the contemporary generation of A 1 would be regarded as (tribal) brothers and sisters, and so on through the other relations, and this ancient view still obtains even under changed conditions of the classes.

The next change which appears to have taken place in the class system is the subdivision of the primary classes into four sub-classes, which may be thus formulated:—

[1] See "Kamilaroi and Kurnai," p. 25.

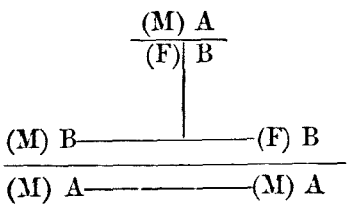
[2] Communicated by the Rev. H. Vogelsang, of the Lutheran Mission in the Dieri country.

No. 2.

Two classes.	Four sub-classes.	Totem names.
A ..	*a*..	1, 2, 3, &c.
	a..	
B ..	*b*..	i, ii, iii, &c.
	β..	

This is the form of the well-known class system of the Kamilaroi tribes; but it is not confined to them,[1] and the extent of this form, so far as is known to me at present, is shown in Plate XV.

It is reasonable to believe that the subdivision of the two primary classes into four subdivisions has not been a matter of chance, but of intention. The effect, together with the interchange of names in each generation with the sister class of the mother, is to remove the woman of the second generation from the influence of the law governing the primary classes. That is, the woman B in the second generation is forbidden to the man A, her father. Were this not so, the law "A (male) marries B (female)" would permit A to take his own daughter to wife. Under the law which arises on the division of a community into two such exogamous intermarrying communes as are shown in Form No. 1, the marriage of brother and sister (own or tribal) is forbidden only. The following diagram shows the generations, with their marriages, descent being counted through the mother.



There is nothing in the law to prevent intermarriage between father and daughter. The subdivision of the classes as shown in Form No. 2 produces, however, a great change, and extends the range of the prohibition of marriage.

[1] To illustrate these two class systems I now give, as typical of the Form No. 1, the classes and totems of the Dieri tribe, for which I am indebted to the

I cannot see any reason to doubt that the first division of Australian communities into two exogamous intermarrying communes was an intentional act arising from within the commune prior to its division. The evidence which I have before me, drawn from the existing customs and beliefs of the aborigines, not only leads me to that conclusion, but also to the further conclusion that the movement itself probably arose within the

painstaking inquiries of the Rev. H. Vogelsang, of the Lutheran Mission to that tribe.

Two classes.	Totem names.	
Matteri	*Purai*	Caterpillar.
	Tikanara	Native cat.
	Malura	Cormorant.
	Karaura	Eaglehawk.
	Markara	Mullet.
	Warugatí	Emu.
	Kwilala	Dog.
	Palyara	Rat.
	And eight others.	
Kararu	*Chukuro*	Kangaroo.
	Woma	Carpet-snake.
	Tidnamara	Frog.
	Kaualka	Crow.
	Buralko	Native companion.
	Kanunka	Bush wallaby.
	Milkivaru	Fish hawk.
	Kokula..	Small rat.
	And eight others.	

As illustrative of Form No 2, I give the Kamilaroi classes and totems in their complete form, which have been carefully worked out for me by Mr. C. E. Doyle, of Kunopia, near Moree, New South Wales.

Two classes.	Four sub-classes.	Totem names.
Dilbi	Muri	Kangaroo, Opossum, Bandicoot, Padimelon, Iguana, Black Duck, Eaglehawk, Scrub Turkey, Yellowfish, Honey-fish, Bream.
	Kubi	
Kŭpathin	Ipai	Emu, Carpet-Snake, Black Snake, Red Kangaroo, Honey, Walleroo, Frog, Codfish.
	Kumbo	

In both these cases descent is through the mother

council of elders, in which the tribal wizard, the professed communicant with ancestral spirits, holds no mean place. The change, whenever it was effected, must, I think, have been announced as having been directed by the spirits of the deceased ancestors (*e.g.*, Mura Mura of the Dieri), or by the Headman of Spiritland himself, (*e.g.*, Bŭnjil of the Kŭlin, or Daramŭlŭn of the Mŭrring).[1]

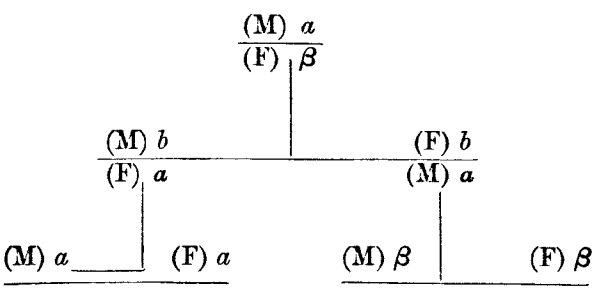
I regard the movement as having been reformatory in intention, and that the object sought to be gained was the prohibition of brother and sister marriage in the community. Such was, I think, the intention and effect of the division shown in Form No 1, as A and B.

The subdivisions of the two primary classes now claim attention, and the four sub-classes may now be thus placed in relation to their primaries :—

$$a + \alpha = \text{A}.$$
$$b + \beta = \text{B}.$$

Each half of an original class has marital rights over the women of one particular half of the other class, whose children do not, however, take the class name of their mother, but of the sister class, *i.e.*, of the subdivision which is complementary to hers. The old law, "A and B mutually intermarry and the child follows the mother's class," still underlies the new arrangements.

The following diagram, showing three successive generations, will bring out the features of the new rules :—



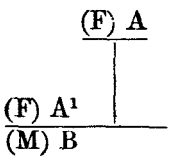
We can see by this diagram that whereas under the primary divisions A and B a man's daughter was of the class from which he might lawfully take a wife—under the new law of the subdivisions his female descendant of the class name over which he would have marital claims would only appear in the third generation as his

[1] The Kŭlin lived in Victoria, the Mŭrring on the Maneroo Table-land, New South Wales.

daughter's daughter, and therefore practically beyond his reach. It would be the same as to the mother: it would be her son's son who would belong to the sub-class from which her husband might be taken. It is necessary to keep in view the fact that these aborigines, even while counting "descent"—that is, counting the class names—through the mother, never for a moment feel any doubt, according to my experience, that the children originate solely from the male parent, and only owe their infantine nurture to their mother.

I cannot, therefore, regard the subdivision of the classes in any other light than as a rule framed to enforce separation between those who had heretofore been mutually eligible under the class rules, but who being of the same blood could not intermarry without committing that which among these aborigines is now universally regarded as a deep pollution. I think that the subdivision of the classes was intended to render impossible those unions which were perhaps even then forbidden by public opinion; for while these subdivisions have only a local range, the social prohibition which forbids the intermarriage of parents and children, or brother and sisters, is universal throughout Australia. That this social prohibition was directed in early times to such intermarriages, or cohabitations, may be perhaps inferred from this, that in some tribes, such as the Kunandaburi, where this prohibition obtains without there being a division into sub-classes, the prohibition itself is disregarded during the ceremonies attending the consummation of a woman's marriage.[1] Thus we have an instance where the general rule does not prevent, on ceremonial occasions, the temporary return to a marked form of communism, and it is not without significance that this occurs in a tribe which, of all others known to me, most nearly approaches in present usage to the theoretical condition of the divided commune.

This may be the place to speak of another prohibition which is universal all over Australia, namely, that of even the slightest intercourse between a woman and her daughter's husband. A diagram will again be convenient in letting some light in upon this custom. I take first the case of the more ancient system having only two classes with uterine descent:—



[1] According to the observations made by Mr. J. W. O'Donnell, of Cooper's Creek.

In this case the man B marries the woman A. It is clear that there could not be any prohibition inherent in the class rules to his marrying the woman A, her mother, or to taking both, for both are of the class from which he might take a wife, and he might lawfully take one or the other if they were otherwise eligible. No arrangement of the classes could prohibit the marriage of a man both to the mother and the daughter. It could only be done by a special social ordinance of great stringency. This stringency is shown by the common expression among these aborigines, "A man cannot even look at his wife's mother." They would regard a connection between the two as a pollution in the highest degree. But I doubt whether this prohibition between a woman and her daughter's husband is in fact any stronger than the prohibition of marriage between a woman and her brother, own or tribal. The social prohibition in the former case is no more stringent than the class prohibition in the latter, only that while the inability in a man to marry a woman of the same class name as himself does not appear, either when he is single or married, unless upon inquiry, the prohibition between a man and his wife's mother instantly stands out in bold relief when he obtains a mother-in-law by his marriage. The prohibition as to a wife's mother is, however, not a whit more strong than is that as to a class-sister.

The objection may, however, be taken that there should be a corresponding avoidance between a man and his son's wife, but on reflection it will become quite evident that with the law of uterine descent—under which we must, I think, assume that these prohibitions have come into existence—the son's wife would be, in fact, of the class to which her husband's father belonged, and therefore already utterly prohibited to him by the laws of the classes, and therefore such a case would not require any special social ordinance.[1]

If the division into classes were not a reformatory movement, what was it? But granting that it was a reformatory movement the following series of conclusions may be accepted as a reasonable hypothesis:—

[1] I note that Dr. Tylor, in his presidental address to the Anthropological Institute in 1881, remarks, in speaking of this custom of the avoidance by a man of his wife's mother, that "In Australia, and all over the world, a man avoids his father-in-law." So far as my knowledge of Australian customs extends, I know of no such avoidance by a man of his wife's father. On the contrary, they hold any kind of intercourse as freely as if no connection by marriage existed. In some tribes, as the Kurnai, there may be an obligation upon a man to supply his wife's father with food or presents. Dr. Tylor's statement is, however, so important, and must carry so much weight, that I am now instituting special inquiries, through my correspondents, in order to learn the exact nature of the relations between the persons named throughout Australia.

(1) The primary division into two classes was intended to prevent brother and sister marriage in the commune.
(2) The secondary divisions into sub-classes were intended to prevent the possibility of intermarriage between parents (own and tribal) and children.
(3) The prohibition of the slightest intercourse between a woman and her daughter's husband was a social enactment intended to forbid connections which the class rules were unable to prevent.
(4) All these changes have been due to an international reformatory movement in the community itself.

The foregoing diagrams, Nos. 1 and 2, may be said to show the normal forms in which the Australian class systems occur, so far as my present evidence extends. Besides these, there are, however, a number of abnormal forms which it is necessary to consider, and for this purpose I take individual instances. For convenience I commence with those which approach nearest the Kamilaroi type. The first example belongs to a large tribe, or group of kindred tribes, occupying much country to the south of the Gulf of Carpentaria.[1]

No. 3.

Two classes.	Four sub-classes.	Totem names.
———	*a*	1, 2, 3, &c.
	a	
———	*b*	i, ii, iii, &c.
	β	

I find in this case the following peculiarities. There are no primary classes, but this may merely mean that my informants have not ascertained them. The sub-classes have the Kamilaroi arrangement as to marriage, but the children's names are those of the *brother-class of the father*. The totems, which at the Lower Leichhardt River are the names of fish, are inherited from father to son. We find here, then, the important innovation of agnatic descent in a class system of the Kamilaroi type.

[1] I am indebted for this and other information to the kindness of Mr. Percival E. Walsh, of Iffley, and to Mr. E. Palmer, of the Cloncurry River.

The next example is from the Wonghi tribe of the Lachlan River.[1]

No. 4.

Two classes.	Four sub-classes.	Totem names.
———	*a*..	1, 2, 3, &c.
	a..	
———	*b*..	i, ii, iii, &c.
	β..	

The peculiarity in this tribe is that while the sub-classes are the well-known Ipai, Kumbo, Muri, Kubi of the Kamilaroi, with two groups of totem names, the rules of marriage in the sub-classes are not those of that tribe. In the Wonghi sub-classes *a* and *b* marry *a* and *β*, whereas the rule of the Kamilaroi, their neighbours, is *a* marries with *β*, and *a* with *b*. There are most probably two primary classes, but I am not yet in possession of them.

A third instance I take from the Aldolinga tribe at the Finke River, South Australia.[2]

No. 5.

Two classes.	Four sub-classes.	Totem names.
———	*a*..	———
	a..	
———	*b*.. .. .	———
	β..	

[1] I am indebted for this to my valued correspondent, Mr. A. L. P. Cameron, of Mulurulu, New South Wales.

[2] For this and other information I have to thank the Rev. H. Kempe, of the Lutheran Mission.

This is a very abnormal form. It extends, however, over a large area. After much reiterated inquiry I feel that it is not probable that this class system is other than that above formulated. There are no primary classes, nor any totem names of the ordinary kind existing; yet from the analogy between the sub-classes and those of the Kamilaroi type I cannot doubt that they are the subdivisions of two classes that once existed. Neither are there any totem names grouped under the couplets of sub-classes, yet this want is supplied by the sub-classes themselves, which are the names of animals, &c. Finally, we have again the important fact that in this abnormal form of class system descent is in the male line, for the sub-classes exchange the children's names with each brother-class—that is, with the brother-class of the class to which the father belongs.

I now turn to other abnormal forms which are connected with the earlier type (Form No. 1).

The first which I note is that of the Wolgal tribe, which once inhabited the upper waters of the Hume, the Murrumbidjee, and the Tumut rivers. In structure it entirely conforms in type to No. 1, but it has this important difference, that descent is counted through the father.

It is important to note that the primary classes in this tribe are "Eaglehawk" and "Crow." These same classes are found extending far to the westward—some five hundred miles—being the well-known "Mūkwara" and Kilpara classes of the Darling River tribes, but in this latter case counting descent through the mother, although otherwise presenting precisely the same type of structure.[1]

The next example is that of a Kūlin tribe which formerly occupied much of the country surrounding Melbourne.[2]

No. 6.

Two classes.	Totem names.
A	1 only.
B	None.

[1] Mr. Cameron, who resides just about where the class system of the Darling River tribes comes in contact with class systems of the Kamilaroi type, writes as follows:—"Mūkwara = Ipai-Kumbu, and Kilpara = Murri Kubbi, my imformant telling me that when he was among people divided into Mūkwara and Kilpara he was called Mūkwara, and when he was among those divided into Ipai-Kumbu, &c., he was Ipai. His tribe live about the boundary of these two great divisions, and any member of the Wathi-Wathi knows perfectly well what woman of the Kamilaroi organisation he should marry." This is an example of the important evidence which Mr. Cameron is collecting.

[2] From personal inquiries from the last survivors of the tribe.

In this community important changes have taken place. Descent is in the male line only. The totems have all disappeared with the exception of one, which belongs to A. The two primary classes, A and B (Eaglehawk and Crow), divide the whole community into two exogamous intermarrying groups.

The system of another tribe (North-Western Victoria), which also designated its men by the term Kūlin, is very peculiar.[1]

No. 7.

Two classes.	Totem names.
None.	16 totems.

The two primary classes appear here to have become extinct, but I cannot feel quite certain on this point pending complete inquiries. Still, the arrangement of fourteen of the totem names seemingly in one group only favours this belief. The two other totem names have this peculiarity, that one is assigned wholly to the men, and the second wholly to the women; one totem having, therefore, descent through the mother as to girls, and the other descent through the father as to boys. The fourteen other totems seem to have been distributed over the whole tribal territory. An individual of one totem might marry with an individual of any of the other thirteen totems, the children taking the mother's totem name.

With reference to this arrangement of the totems, I may here compare the Narrinyeri tribe of South Australia, concerning which the late Rev. George Taplin has recorded many interesting facts. I subjoin the form of class system of this tribe, based on data kindly collected and verified for me by Mr. Frederick Taplin, Superintendent of the Point Macleay Mission:—

No. 8.

Two classes.	Totem names.
None.	23 totems.

The peculiar features in this case are: the tribe is divided into eighteen local clans, fourteen of which have one totem name

[1] From personal inquiries.

only, three have two totem names each, and one has three totem names. Two clans have one totem name in common. The totem names are exogamous, and descent is in all cases through the father.

I now compare with the systems already given that of the Kŭrnai tribe, which may be thus stated:—

No. 9.

Two classes.	Totem names.
None.	1, all males. 1, all females.

This shows the peculiar feature noted in the Kūlin tribe of North-Western Victoria. Under it all the Kŭrnai men are of one, and all the women are of another totem name—that is, as I have said of the former tribe, the sons inherit the totem name of their fathers, and the daughters that of their mothers.[1] By themselves it might seem difficult to regard these two totem names as connected with the normal class systems of the Australian, but taken together with the other examples which I have given I think it is evident that we have here an instance of almost complete decay in the classes and totems. There is further evidence, which is too lengthy for insertion here, and which in some measure would lead me beyond the scope and intention of these notes. I reserve it for a future communication, merely remarking now that it raises a strong presumption that the Kŭrnai system and that which I have given in Form No. 6 are the survivals of an earlier system of the primitive type which has now become extinct.

These may serve as illustrations of the abnormal forms which the classes and totems of some of the Australian communities assume.

In conclusion, I give an instance which is, so far as my experience goes, *sui generis*. The tribe calling itself Ikŭla (Morning Star), situated at the head of the Great Australian Bight, at the boundary between Western Australia and South

[1] I have now traced the analogues of these Kŭrnai totems from the South Australia boundary-line to far to the eastward beyond Victoria, over a distance of more than 600 miles; I find them accompanying class systems having some uterine and others agnatic descent. My valued correspondent, Mr. Cameron, has identified them in the Wathi-Wathi tribe north of the Murray River.

Australia, has very peculiar marriage arrangements, which I give below.[1] The community is divided into the classes—

Būdera = Root.
Kūra = Native Dog.
Būdū = Digger.
Wenŭng = Wombat.

Male	Marries	Children are
(M) Būdera ..	(F) Kūra .. .. or (F) Wenŭng	(M) Būdera; F. Kūra. (M) and (F) Būdera.
(M) Kūra ..	(F) Būdera .. .. or (F) Būdū	(M) Kūra; (F) Būdera. (M) and (F) Kūra.
(M) Būdū ..	(F) Wenŭng	(M) Būdū; (F) Wenŭng.
(M) Wenŭng ..	F. Būdū	(M) Wenŭng; (F) Būdū.

There are peculiar customs in this tribe, according to my informant, which point to Būdera and Kūra holding a superior position in the community to either Būdū or Wenŭng. Such, for instance, as when a woman is captured from one of the neighbouring "wild tribes." Supposing her to have been captured by a Būdera man she would be passed from the Būderas to the Kūra men, and from them to Būdū and Wenŭng. It is also said that when a Būdera man kills a kangaroo he does not carry it home, but if alone takes precautions against wild dogs and hawks, and sends some of the other men from the camp for it: such game also, when cooked, is divided by a Būdera man. These indications of superiority in the Būdera and Kūra classes are also manifested in the rules of marriage and descent. The male Būdū or Wenŭng is restricted in his choice, and does not transmit his name to his daughters.

And this, I think, justifies the belief that we may have here a case of two communities having amalgamated, but not on equal terms, one having been more powerful than the other. It then becomes easy to see that the peculiar relations of marriage and descent are a consequence of the superior tribe keeping for itself greater privileges, such as certain rights of intermarriage, than it granted to the tribe it admitted to its community,

[1] I am indebted for this interesting information to the labours of Mr. Elphinstone Roe, lately teleg-aph operator at Eucla.

Using the form which I have adopted for showing the class systems in this paper, that of the Ikŭla tribe may be shown thus:—

No. 10.

A	*a*.
B	*b*.

Here A and B represent the classes Būdera and Kūra, while *a* and *b* represent Būdū and Wenŭng. If we now, acting on the view I have above suggested, separate the whole into its two constituent moieties, we shall have exactly a representation in each of the assumed forms of the divided commune, in which the two divisions are in fact totems. It may be that we have here an instance of a tribe shut up in extreme isolation, which has not so much, perhaps, developed an abnormal form of class system as retained from the past the original form of the community to which all the other types of class system in Australia may be reduced.

The attached map will show that the systems having the more or less perfect Kamilaroi type occupy a large area from the eastern coast inland; that the primitive type of class-system extends far across the southern part of the continent, and northwards into the interior; and also that abnormal forms of system appear to constitute a fringe along the coast. What causes may be assigned to explain these features of distribution I do not now propose to consider, but leave for the future, when a greater mass of evidence shall have accumulated in my hands.

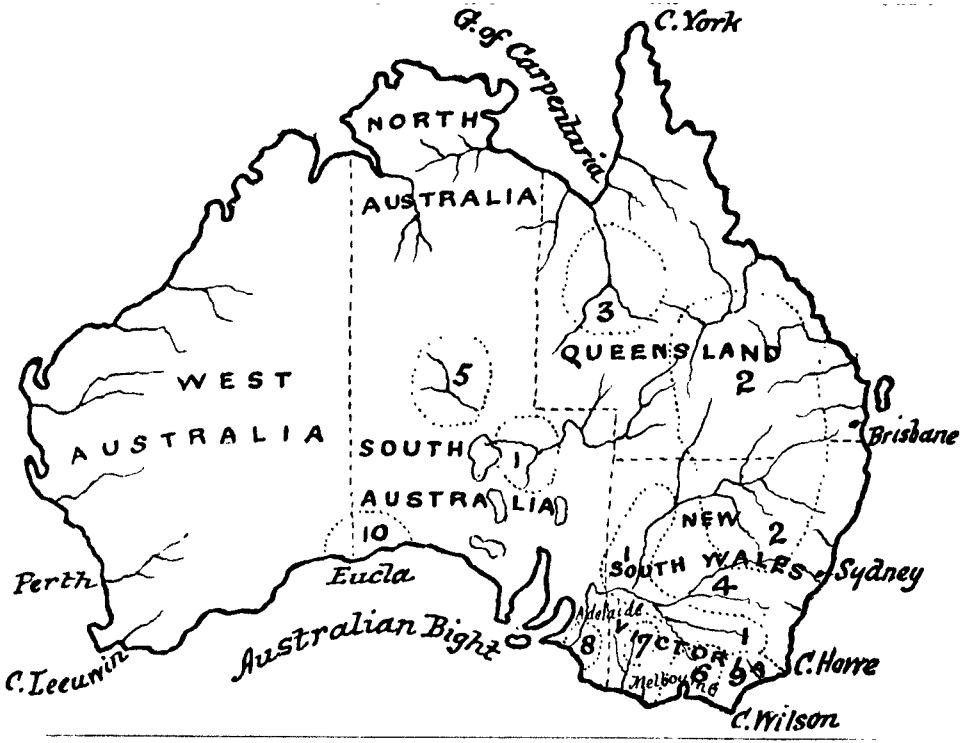
Description of Plate XV.

Map of Australia, showing distribution of the class-systems.

(The figures indicate the several systems referred to in the text, and the dotted lines show the areas over which they are distributed.)

Discussion.

The Chairman called attention to the fact, as not unconnected with the subject of the paper, that rules somewhat similar, and as strict, prevail amongst some of the lowest races in the Indian Peninsula. In the province of Canara, on the Malabar Coast, the Chandalas, or slaves, are divided into fifteen castes, none of which may intermarry. In condition and status these castes, who doubtless represent the primitive races, conquered and enslaved by the Aryan invaders, are much on a level with the Australian aborigines, whom they physically resemble. In marriage customs, however,



SKETCH-MAP OF AUSTRALIA, SHEWING DISTRIBUTION OF CLASS SYSTEMS.

there is this difference, that whereas in an Australian tribe intermarriage is allowed, regulated by the totems of each group, the Indian slave castes are strictly prohibited from intermarrying one with the other. Marriage according to totems is also the rule amongst some of the least civilised North American tribes.

The remarkable system of checks and restrictions regarding intermarriage amongst allied tribes, which had just been described, suggested to the speaker some considerations that have an anthropological bearing. It had long appeared to him that the intellect and manners and morals of so-called savage races are generally held too much in contempt. Now these Australians, who are by many regarded as lowest in the scale, have been able to discern how social and moral evils result from unrestrained communion in marriage, and have devised, and continued to observe, an intricate system of checks, exactly obviating the evil and mischief that would certainly follow all want of restraint. They appear to attribute the system to supernatural direction, but it must have originated amongst themselves, probably in prehistoric times, for Australia and its races are regarded as amongst the oldest on the earth, and most nearly representing the land and peoples of the stone period. Possibly the vanished people of those mysterious periods may have been able to recognise social and moral good and evil, to have devised preventives, and transmitted them to their fast-perishing representatives in these times.

Mr. Lewis said the paper dealt with most important subjects, and would be better appreciated when studied minutely and at leisure in the Journal than it could possibly be on hearing it read. It seemed that while an Englishman was strictly prohibited from marrying his grandmother, an Australian was free to do so if he wished; but perhaps one reason for this difference might be that the average duration of life in prehistoric Australia was so short that there would be no probability of such a marriage ever being contracted.

Dr. Gustav Oppert remarked that he had listened with great interest and attention to the learned paper of Mr. Howitt, and that his remarks, as coming from a gentleman well acquainted, by long residence among those tribes, with their manners and customs, were of great importance, as they supplied material for a scientific inquiry into the principal cause of those strange laws. The tribal distinctions found among the natives of Australia are a most curious phenomenon, but they must be compared with similar observances met with in other countries. Mr. Howitt's paper clearly pointed to the fact that the original division into male and female tribes, which underlies the whole Australian system, was due to the separation, which at one time (*i.e.*, at the commencement of social life) was made between the males and females and the descendants of these males and females. The speaker was inclined to contend that in former times the two sexes lived more separated from each other, that those marriage customs were based on this separation, and that after these customs had become laws those tribal distinctions

were made hereditary. In consequence of this state the males of one group can only intermarry with the females of another, and *vice versâ*. This arrangement does not prevent each group being later on divided into different divisions, and in the course of time the laws of intermarriage becoming more complicated. That there existed at an early period social distinctions between the males and the females of the same community among the inhabitants for Australia, Polynesia, and America, is borne out by the distinction which contemporaneously existed between the speech of the males and females.

JANUARY 9TH, 1883.

A. L. LEWIS, Esq., *in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From SIR JOHN LUBBOCK, Bart.—Revue d'Ethnographie. Nos. 1-5.
From the AUTHOR.—The Doctrine of Evolution. By T. W. Leys.
—— Sketch of the Hon. Lewis H. Morgan. By F. W. Putnam.
—— The Claims of Science to Public Recognition and Support By Dr. Guy, F.R.S.
—— The Pedigree of the Devil. By Frederic T. Hall, F.R.A.S.
—— Origin and Significance of the Great Pyramid. By C. Staniland Wake.
From the MADAGASCAR COMMITTEE.—What are "French Claims" on Madagascar?
From the GERMAN ANTHROPOLOGICAL SOCIETY.—Archiv für Anthropologie. September, 1882.
From the BERLIN ANTHROPOLOGICAL SOCIETY.—Zeitschrift für Ethnologie. 1882. Heft 5.
From the ACADEMY.—Zbiór Wiadomości do Antropologii Krajowéj. Wydawany staraniem Komisyi Antropologicznéj Akademii Umiejętności w Krakowie. Tom. VI.
—— Rozprawy i Sprawozdania z Posiedzen wydzialu Matematyczno-Przyrodniczego Akademii Umiejętności. Tom. IX.
—— Pamiętnik Akademii Umiejętności w Krakowie. Wydzial Matematyczno-Przyrodniczy. Tom. VII.
From the ASSOCIATION.—Proceedings of the Geologists' Association. Vol. VII, No. 6.
From the SOCIETY.—Boletim da Sociedade de Geographia de Lisboa. 3ª Serie. No. 5.
—— Bollettino della Società Africana d'Italia. November, 1882.
—— Journal of the Society of Arts. Nos. 1569-72.
—— Proceedings of the Royal Geographical Society. January, 1883.

From the EDITOR.—Correspondenz-Blatt. October, November, December, 1882.
—— "Nature." Nos. 685–88.
—— Revue Scientifique. Nos. 25–27, 1882; No. 1, 1883.
—— Journal of Mental Science. January, 1883; October, 1881; January, April, October, 1882.
—— Revue Politique et Littéraire. No. 26, 1882; No. 1, 1883.
—— Bullettino di Paletnologia Italiana. Nos. 10, 11.

The election of Admiral F. S. TREMLETT, F.G.S., was announced.

Mr. WORTHINGTON G. SMITH exhibited four palæolithic implements from Madras, upon which Mr. Walhouse offered some remarks.

The following paper was read by the author:—

On the PROBABLE REGION *of* MAN'S EVOLUTION.

By W. S. DUNCAN, Esq., M.A.I.

ASSUMING that man was evolved from a form lower in organisation than that of the lowest type yet discovered, that his origination formed no exception to the general law of evolution recognised as accounting for the appearance of the lower forms of life, Man's most immediate ancestors must have been similar in structure to that of the existing anthropoid apes. Yet it is not necessary to suppose that any of the anthropoid apes at present existing belong to the same family as that of man. It is only indispensable to the hypothesis of man's evolution to say that man formed one at least of a set of families of man-like animals somewhat similar to the present apes. For in seeking for a transitional link between man and a lower form we naturally look for a structure having a smaller brain capacity, and a body less adapted to the upright posture. To seek for this is to search for a form more ape-like in all respects. As was admirably summarised by Darwin in his "Descent of Man" (p. 190), "Nearly all the more important differences between man and the quadrumana are manifestly adaptive in their nature, and relate chiefly to the erect position of man, such as the structure of the hand, foot, and pelvis, the curvature of the spine, and the position of his head." If, then, by palæontological evidence we can trace the changes through which the human form has passed from a semi-erect, quadrumanous, small-brained creature to an erect, large-brained biped, we shall have raised the doctrine of

man's evolution from the low ground of hypothesis to the elevated platform of historical fact.

I shall now inquire what evidence, if any, we possess to lead us to hope for success in the search for fossil remains demonstrating the existence in past geological time of such transitional links.

The quarter from which our first ray of light comes is that of the science of distribution, or the compilation of facts which proves the geographical distribution, in present and past time, of the order *Primates* to which man belongs. According to the standard work of reference by Mr. A. R. Wallace, namely, his "Geographical Distribution of Animals," we learn that there is no evidence to show that any but the lowest families of the Primates—to wit, the Lemurs, and the lowest types of monkeys, were distributed to both the New and the Old World, man of course excepted. It is therefore probable that these families originated within the Arctic Circle so as to become easily distributed over both hemispheres; for their powers of locomotion are so limited, and their dependence on a warm climate where fruit-trees abound is so absolute, that the distribution of these animals from one hemisphere to another after they had passed south of the Arctic Circle is extremely improbable, if not altogether impossible. The least indispensable conditions under which animals, originated in either hemisphere south of the land passage between the two, could pass from one hemisphere to the other, must be that they should be compelled to accommodate themselves to lower temperatures, and to entirely new kinds of food. There is no evidence to show that either the lemurs or the lowest types of monkeys were compelled to fly northwards, and so to alter their habits and constitutions, and therefore we account for their existence in both hemispheres by supposing them to have been originated within the Arctic Circle at a period when that region was tropical.

But while it may safely be supposed that the lowest members of the Primates took origin in what is now the frigid zone, it cannot be deemed at all likely that the higher types of monkeys, much less the anthropoid apes, ever existed so far north. There is no evidence that they ever appeared in America, while they have been and still are distributed in the Old World. Had the higher monkeys, or the anthropoid apes, been evolved within the Arctic regions they would in all probability be found, living or fossil, in the New as well as in the Old World. Until any evidence is adduced that these higher families of the Primates were distributed to America it would be idle conjecture to suppose that they originated within the Arctic Circle; and if there is no evidence to show that these families took origin in

that region it is infinitely less probable that the latest, highest, most specialised of all animals—man—began being in these remote regions. On the other hand, since only the lowest members of the Primates have been distributed to both eastern and western hemispheres, while the higher members exist abundantly in the Old World, these facts indicate emphatically that the higher primates were originated on this eastern hemisphere—and this, too, in a latitude so far south of the land connection between the two worlds that, for reasons already mentioned, it became impossible for them to enter afterwards the continent of America.

Again, the fact that man, in remote antiquity, became universally distributed only proves that at that distant epoch he had thoroughly acquired the necessary powers of locomotion, and of accommodating himself to varieties of climate, temperature, and food, which among other characteristics mark him off as an improved and highly specialised type. What we already know of distribution, then, points to this first important conclusion—that the higher primates, and therefore man, were not originated within the Arctic Circle, nor yet in the New World, but somewhere in the Old World alone.

Being now confined to the Old World in our quest for the remains of incipient man, let us next see whether we cannot get some definite evidence as to the locality in this hemisphere where his relics are to be found, still taking as our clue to search the known facts of distribution, in past and present time, of the monkeys and apes of the Old World, and beginning with the lowest family, according to Mr. Mivart's classification (which is adopted by Mr. Wallace): it is as follows:—

The *Cynopithecidæ*, or Old World monkeys of the dog-shaped type, have, according to evidence, lived during the middle and later tertiary time in the south of England, the south of France, and in Northern India. At present they are found in Gibraltar, Northern, Western, Tropical, and Eastern Africa; they are also in Arabia, India, Eastern Thibet, Japan, and the Malay Islands, including the Phillipines and the Celebes. This goes to show that this, the lowest family of monkeys, has been distributed, since middle Tertiary time, from the west of Central Europe to Southern Europe and Eastern Asia, and from thence as far south as the tropics of Africa and Malaysia.

The next higher family of Simii, namely, the *Semnopithecidæ* have during the same middle and later Tertiary periods lived in Southern Germany and France, Italy, Greece, and Northern India. They are now found in Eastern and Western Africa, Indo-China, India, Ceylon, and Malaysia. Thus this family, which is intermediate between the lowest monkeys and the

anthropoid apes, has, like the former, been dispersed from Central and Western Europe to Southern Europe and South-Eastern Asia, and thence down as far as about the Ethiopian and Oriental tropics.

As yet no evidence exists that the highest family of the Simii, namely, the anthropoid apes, ever had a range so far north as that of the Semnopithecidæ or the Cynopithecidæ. Of the man-shaped apes the lowest genus, *Siamanga*, has not as yet been found fossil: at present it ranges through Malacca and Sumatra. Remains of the genus next in order, namely, *Hylobates* (or of forms closely allied to this genus), have been found in the south of France (I allude to *Dryopithecus* and *Pliopithecus*), but the living representatives are now confined to Java, Assam, and Southern China.

Though the genera next in order, namely, those to which the Orang, the Gorilla, and the Chimpanzee belong, have not yet been discovered fossil, a genus, different from all but more nearly allied to that of the chimpanzee, has recently yielded remains in the Siwalik hills of India. I refer to *Palæopithecus*, as described by Lydekker in Part XII of the "Records of the Geological Survey of India."

But though our palæontological evidence is meagre as to the place of origin and past distribution of the anthropoid apes, yet the fact that one genus, allied to *Hylobates*, has been proved to have existed in the south of Europe in Miocene times, and is now represented by the Gibbons in South-Eastern Asia and Java, while another genus more nearly allied to the chimpanzee of Western tropical Africa is proved to have lived in Northern India in Pliocene times,—these facts, I say, prove that a wave of anthropomorphic life existed from later Miocene to Pliocene times in the south of Europe and sub-tropical Asia.

The question next arises whether the genera of apes now existing have not been all derived from the south of Europe and sub-tropical Asia, as is proved to be the case with *Hylobates*. It is a most noteworthy fact that the whole of the existing genera of apes are equally divided between two regions so remote as Central Africa and Malaysia. It is a fact that indeed cannot be accounted for by supposing either of these regions to be a centre of ape-origin. Apes are too fond of the comforts of warmth and abundance of fruit to exchange without compulsion a tropical for a sub-tropical region. And this they would require to do if it were supposed that the apes of one of these regions were derived from the other region.[1] Again, the difference between

[1] The supposed lost continent underlying the Indian Ocean—*Lemuria*—is, for reasons given by Mr. A. R. Wallace, assumed to have had no existence.

the apes of Africa and those of Malaysia is too great to allow of the supposition that one set is derived from the other set. The supposition that Africa and Malaysia were each a separate centre of ape-evolution is too far-fetched for acceptance, seeing that the Oriental group is distinctly proved to have been derived from the south of Europe. The simplest inference, then, seems to be that all the genera of living apes are derived from Southern Europe and sub-tropical Asia.

But the lowest types of mankind are also found in the very regions where the anthropoid apes now exist. Our next question, then, is whether, on the assumption that man was evolved, he passed through the transition stage between ape and man in the tropics of Africa, or Malaysia, or in a latitude higher up?

Although many naturalists, and among them some of the most eminent, have regarded the present home of the anthropoid apes as the most probable region where man was evolved, and although I must confess that this was my own earlier belief, I must now dissent from this view for the following reasons:—

Firstly, the presence in the tropics of Africa and Malaysia of about equally inferior types of man, such as the Akka dwarfs in Africa, and the Aetas in Java—the former being characterised by prognathism most pronounced, and the latter by the most generally ape-like type of head and face—suggests derivation from a higher latitude as truly as does the presence in the same regions of the existing genera of anthropoid apes. In other words, just as apes existed in Europe and Asia before they reached the tropics, as is proved by palæontological facts, so we may infer that man existed in Europe and Africa before the low types referred to occupied tropical Asia and Malaysia. At least the presence in these latter regions of the low human races referred to need not suggest their origin in either Africa or Malaysia, any more than does the presence there of the anthropoid apes suggest their separate tropical origin.

Secondly, there is no evidence that the present habitat of the apes, regarded in its physical or geographical character, is such as to supply the forces necessary to evolve apes into manhood. The character of the habitat is too well suited to the wants of the ape to furnish any sufficient stimulus to its raising its status. We must look to some region where apes were compelled gradually to give up ape-habits of living in trees, and feeding on a mere fruit diet,—a region where apes were *compelled* to change their food and mode of locomotion, so as to develop more erect and elegant forms, with enlarged brains, and quickened intelligences,—a region forcibly subjecting them to lower temperature, and so making it possible for them ultimately to

become universally distributed. No topical region supplied the conditions necessary to produce such changes. In what direction, then, must we look?

We have seen that it would be out of all reason, as far as present evidence goes, to suppose that the ape, out of which man sprang, was an inhabitant of America or of the Arctic regions. We have also seen that there is no evidence to show that apes existed farther north than Central Europe, and we have seen that they have been traced to Southern Europe and Northern India in Miocene and Pliocene times. In short, we have seen that there has been a gradual southward distribution of simian life, as of every other form of life, in consequence of the gradual cooling down of the northern zones of our globe.

The tendency of the steady process of refrigeration was of course to drive all forms of life, by degrees, southward to the tropics, excepting such as should become compulsorily adapted to temperate or cold climates; and had there been no barriers to this southward distribution in the Old World it is very probable that apes would never have had a fair chance of becoming evolved into manhood.

But geographical barriers did exist that were, on the one hand, unfavourable for apes moving southward, and so continuing to be apes, and on the other were favourable to their detention in the very region in which they had the best chance of becoming men, if they were to survive at all. What then were those barriers?

The principal barrier which prevented the apes from easily moving southwards was, briefly, the enormous extent of sea border on the south of Europe and sub-tropical Asia. On the south of Europe was the Mediterranean, separating Europe from Africa. On the south of sub-tropical Asia was the Arabian sea and its diverging branches, which in Miocene times extended from at least high up the Euphrates valley, down the Persian Gulf, round into the valley of the Indus and the Punjab. The Red Sea and Gulf of Suez, moreover, then ran into the Mediterranean. It is not impossible even that the Jordan valley was then filled with water, extending from the Red Sea to the Euphrates valley, thereby probably cutting off Arabia from Asia. It is not certain that, in Miocene times, what is now the Strait of Gibraltar was dry land, or that Europe was connected by an isthmus through Italy and Sicily to Africa. But allowing that land connections did exist, both between Gibraltar and Tangier, and between Italy and Tunis, yet there was still a water separation of some five thousand miles extent on its northern border between Europe and Africa, as compared with two bands, of fifty and a hundred miles respectively, of land

connection. Then, even if we admit that Arabia and India, as well as Malaysia, might have been reachable by similar narrow land routes, there was still a sea-barrier, of four to five thousand miles extent, cutting off the tropical from the sub-tropical regions of Asia.

Thus the Mediterranean Sea on the one hand, and the Arabian Sea, with its diverging branches up the Euphrates, Scinde, and Punjab valleys, on the other, proved immense sea-barriers, which must have arrested the southward migration of the anthropomorphous apes in Miocene and Pliocene times, preventing them from reaching the tropical regions of the Old World, so necessary to their comfort, and so well suited to their physical constitution.

Let us now inquire into the importance of this fact of a southern sea-barrier, together with attendant physical conditions on the future of anthropomorphic life.

The gradual southward dispersal of all forms of life was due to the approach of cold from the northern latitudes, distantly premonitory of a coming Ice Age. Impelled southwards by cold, and arrested by a southern sea-barrier, what must have been the effect upon the anthropoid apes of Southern Europe and sub-tropical Asia? Those apes that were near to the narrow land connections between Europe and Africa would of course escape (as far as to North Africa) from the effects of approaching cold; those similarly placed in Asia would be able to save themselves from like discomfort. *All the rest, however,—and they must have formed a vast majority*—who never knew of a possible way of escape, must have been obliged to remain and contend with adverse circumstances. First, they would have to contend with the conditions of a climate to which, for temperature, they had hitherto been unaccustomed. They had to become adapted to withstand a low temperature, and so develop one of the distinguishing characteristics of man, whereby he became universally distributed; or else they had to perish, as soon happens with apes brought from a tropical to a temperate region at the present day. Here, then, was the first struggle for existence, or for the development of one characteristic of man. Some, perhaps many, genera of apes died out in this struggle, but others doubtless were for a time successful, and were followed by a posterity still more successful. It must be remembered that this change from a warm to a temperate, or even cold climate, was gradual, and therefore admitted of adaptation more easily than at first sight might be imagined. Yet, doubtless, many genera died out, unable to protract the struggle. One thing seems very probable, namely, that the apes at present occupying the Equator are not likely to have been derived from the stock that were obliged to

remain and contend with cold, but are more likely to be the descendants of those who were near the narrow land connections from Europe to Northern Africa, and from Asia down into Malaysia. The Ethiopian apes, however, are on the whole more highly developed than the Oriental ones, possibly on account of the long detention of their ancestors in the mountainous district of Northern Africa, arrested by the Sahara sea or desert.

The recently discovered Pliocene fossil, *Palæopithecus*, too, which has been shown by its teeth to be more highly developed than any existing Oriental ape, probably owed its superior development to its detention in the Himalayan region.

The same set of circumstances which drove the apes from Central to Southern Europe and Asia, and arrested their progress farther southwards (namely, on the north the increasing cold and on the south the sea-barrier), would operate upon immense hordes of other animals that had to contend with the same climatal hardships. The crowding together in this region of all kinds of animals must have given rise to other struggles, fiercer perhaps than those due to a lowering of temperature. In this region the struggle between natural enemies must have been intense, and was well calculated to sharpen intelligence, and promote the growth of brain. The apes, by nature endowed with imperfect powers of locomotion, would be compelled in self-defence to use their hands and arms in wielding weapons, instead of taking shelter in trees. Wood, horn, bone, and stone weapons or missiles would doubtless be used for such purposes with at first, perhaps, little care as to their suitability, and with no attempt at construction. But they doubtless played their part in training and educating the arms and hands of the improving ape.

The continued increase of cold would have another great result. By eliminating the number and extent of fruit-forests, the surviving apes would be compelled to adapt themselves gradually to new varieties of food. The compulsory departure from an exclusively fruit diet would probably be followed by the use of roots; or, in the neighbourhood of rivers, lakes, and seas, the apes would probably seek to secure a diet of mollusks, or of fish, or even now and then, perhaps, of stranded cetaceans. Is it not possible, then, that the man-like apes were by this means so far developed into ape-like men as to be intelligent enough to make for themselves implements of some kind, whereby they cut away the flesh of stranded whales, and left their ribs marked and notched (as Professor Capellini has found them) as a memento of this transition period of struggle? Whatever the apes of that time were obliged to live upon, it is certain they

would in many cases have been obliged to change from a purely vegetarian diet.

But this necessity of resorting to search for other kinds of food would have the effect of shortening the upper limbs that had hitherto been so much applied to purposes of swinging from bough to bough in the luxuriant forests of fruit-trees. The upper limbs would shorten from the cessation of this habit: the hand would become developed into a more man-like organ of prehension. The lower limbs, on the other hand, would become stronger with exercise, and the foot, by frequent use, more adapted to support the body, and would more and more depart from the character of a prehensile organ.

But there is one other set of circumstances remaining to be considered, that must have greatly augmented the force of such conditions as I have described, and therefore have greatly increased the results I have shown, that must have flowed from them. It is this: the dry land in the south of Europe and sub-tropical Asia was steadily rising from the beginning of Miocene times, became gradually hilly, then mountainous, till eventually it became, as it is at the present day, "almost wholly a region of mountains and elevated plateaus." As the greater part of this district coincides with the south of the Palæarctic region or the Mediterranean sub-region in Mr. Wallace's "Geographical Distribution," and as that writer has given an admirable description of its present state, I cannot resist making the following extract:—"On the west, Spain is mainly a table-land of more than 2,000 feet elevation, deeply penetrated by extensive valleys, and rising into lofty mountain-chains. Italy, Corsica, Sardinia, and Sicily are all very mountainous, and much of their surface considerably elevated. Further east, we have all European Turkey and Greece, a mountain region with a comparatively small extent of level plain. In Asia the whole country from Smyrna, through Armenia and Persia, to the further borders of Affghanistan, is a vast mountainous plateau, almost all above 2,000 feet, and extensive districts above 5,000 feet in elevation. The only large tract of low-land is the valley of the Euphrates. There is also some low-land south of the Caucasus, and in Syria the valley of the Jordan. In North Africa, the valley of the Nile, and the coast plains of Tripoli and Algiers, are almost the only exceptions to the more or less mountainous and plateau-like character of the country" (pp. 199, 200).

The more eastward part of sub-tropical Asia, namely, the north and north-east of India, is so well known to be mountainous that it needs no description.

Now, in order to prove that the whole of this district of Southern Europe and sub-tropical Asia has been gradually raised

during Tertiary time, I give a short extract from Sir Charles Lyell's "Elements of Geology":—

"The nummulitic limestone [which I need hardly say is of Eocene date] of the Swiss Alps rises to more than 10,000 feet above the level of the sea, and attains here and in other mountain-chains a thickness of several thousand feet. It may be said to play a far more important part than any other tertiary group in the solid framework of the earth's crust, whether in Europe, Asia, or Africa. It occurs in Algeria and Morocco, and has been traced from Egypt (where it was largely quarried of old for building the Pyramids) into Asia Minor and across Persia by Bagdad to the mouths of the Indus. It has been observed not only in Cutch but in the mountain-ranges which separate Scinde from Persia, and which form the leading passes into Cabul; and it has been followed still farther eastward into India as far as Eastern Bengal and the frontiers of China." Further, "Dr. Thomson found nummulites in Western Thibet at an elevation of 16,500 feet." Again, summarising the facts, he says: "All the mountain-chains, such as the Alps, Pyrenees, Carpathians, and Himalayas, into the composition of whose loftier parts the nummulitic strata enter bodily, could have had no existence till after the middle Eocene period. During that period the sea prevailed where these chains now rise" (pp. 260–1).

Since elevation has never taken place suddenly, it follows that from the beginning of Miocene times these mountains and plateaus have gradually risen, through the Miocene and Pliocene epochs, till at last they attained their present elevation. The fact of their gradual and not sudden elevation is marked by the known deposits of Miocene and Pliocene age on the flanks and bases of mountain-ranges of the Pyrenees, the Caucasus, the Himalayas, as well as the mountain-ranges of Italy, and also in Greece. Now it was in later Miocene and in Pliocene times that the family of anthropoid apes occupied this region, and were, along with hordes of other animals, endeavouring to become adapted to the lower temperature which was stealing upon them gradually from the north. As time went on, the increase of cold, which proceeded from the refrigerating causes that culminated in the last glacial epoch, had *added to it* the increase of cold due to gradual elevation of the land in this extensive zone. The effect of gradual elevation would manifestly be to greatly augment the changes of structure, habit, and character of those apes that were able to keep up the struggle. These changes, as I have already said, would be—first, a hardened power of contending with cold; the acquisition of habits of living on varied food; of using weapons of self-defence,

and so improving the hand; of abandoning the forest-life, and so improving the powers of locomotion and proportioning the lower to the upper limbs as in man; growth of brain by virtue of the stimulus afforded by all the factors in this long-protracted struggle. And to all this I add yet farther that the mountainous character of the region perfected the human characteristics of an erect posture—curving the spine forward in the lumbar region, and widening the pelvis as the result of action in ascending and descending the mountain sides.

Having completed my argument as respects the region of Man's evolution, I am bold to repeat that the due consideration of the geographical, climatal, and other conditions of this southern portion of the Palæarctic Region upon the anthropoid apes which occupied it in later Miocene and Pliocene times, taken in connection with the facts of distribution of the higher *Primates*, must lead to the conclusion that this region was of all others the most likely to have supplied the conditions necessary to the evolution of the bimanous erect and large-brained form of Man out of the quadrumanous semi-erect and small-brained form of the Ape.

One word, in conclusion, with respect to the practicability of discovering those remains which my argument goes to show lie entombed in strata of the south of the Palæarctic Region.

I have already quoted authorities to prove that the whole of this zone had undergone a process of gradual and continuous upheaval during Tertiary time. The lowest of the Tertiary strata, in point of actual altitude, namely, the Eocene, is found at heights from 10,000 to 17,000 feet above sea-level. Since upheaval must at all times be gradual it follows that the continuous rising of the land into what are now lofty mountain-ranges would have the effect of tilting the various layers of strata deposited through Miocene and Pliocene times.

The inclination of these strata, therefore, gives us every encouragement to believe in the accessibility of the remains of which we are in quest. Though there is yet much to learn about the geology of the south of the Palæarctic Region there is even now abundance of information to guide exploration. Unfortunately, perhaps, for *us* most of this extensive region is under other than British rule, else we might prosecute inquiries in the Pyrenees or the Caucasus, or in some of the promising districts of Italy. Our protectorate of Asia Minor, however, might enable us to obtain leave of the Turkish Government to explore any portion of that country that might be deemed fruitful of search. Having retired from Afghanistan we need not indulge the hope of soon exploring that country. But there is India at our command. According to evidence confirmed by

the Records of the Geological Survey of India, Miocene and Pliocene deposits occupy the northern border of the Punjab, the western border of Scinde, and the mountain-range between India and Burmah. In exploring for the remains of pithecoid man it is of course necessary to confine our search to deposits of fresh-water or brackish water origin. In marine deposits we of course would search in vain. Moreover, it would be advisable to limit our search, even among fresh-water strata, to such as gave promise of good preservation of osseous remains. Matters such as these, however, constitute details that would be sure to receive the attention of any earnest investigator. The main question to be settled first is, whether my argument in favour of the evolution of man in the south of Europe and sub-tropical Asia is sound. If not, let it be mercilessly overthrown. If, on the other hand, it be deemed feasible, can any reason be advanced against a Committee of Exploration being formed out of the members of this Institute to prosecute this inquiry, which of all others in anthropology or biology—nay even of all knowledge—is fraught with the deepest interest to mankind?

If it be urged that such a committee, by being destitute of funds, is helpless, I reply that this is far too desponding a view to take. Who knows but that the formation of such a committee might be followed by the arrival of funds? But even without funds a small but earnest committee might be of incalculable service in stimulating and keeping alive inquiry into the palæontological history of man. Such a committee, for example, might call the attention of anthropologists, or men of science interested in anthropology, who happened to be located in the region I refer to, or who contemplate exploring any portion of that region, to the bearing of the evidence I have just pointed out on the question of the evolution of man, so that they might be induced to add to that evidence. The Institute already adopts this mode of procedure in adding to its information respecting other fields of anthropological inquiry, such as the acquisition of facts of measurement, form and colour of the living races of mankind. Why should not inquiry be also stimulated to search for palæontological traces of pithecoid man in Miocene and Pliocene fresh-water strata of Southern Europe, Northern Africa, and sub-tropical Asia? There is no reason that I can find against such an inquiry being prosecuted; but it is clearly necessary to its being properly attended to that a committee, however small, should be appointed which shall at once possess the authority and prestige of this Institute, and be responsible for reporting to it from time to time the results of its acquired information, or of the amount of stimulus it has given

to individuals or expeditions favourably situated for prosecuting such an investigation.

I close by earnestly hoping that the Council may take an early opportunity of favourably considering my suggestion for forwarding enquiry into this subject of palæontological anthropology, or the question of the When, Where, and How of man's origin.

Discussion.

Mr. James Heywood, Mr. Park Harrison, M. Bertin, and Dr. Garson took part in the discussion.

The Chairman, in summing up, expressed his opinion that the paper was well and carefully put together, and had elicited a very useful discussion, but he doubted whether it took in all the circumstances of the case. Assuming that man was descended from a lower creature he thought it more likely that several of the different races originated in different places than that they were all descended from the same stock; and some of the areas of evolution were very likely buried in the sea. He doubted whether any one had ever supposed that men were descended from monkeys, although many thought that monkeys and men were descended from the same source. The district in which the author expected to find the missing link was well looked after by continental anthropologists, and in view of this, and of the fact that the whole Institute was a standing committee for the collection of anthropological information, he thought the appointment of a special committee was not necessary.

The Ethnology *of* Germany.—Part VI.

The Varini, Varangians, and Franks.—Section I.

By Henry H. Howorth, F.S.A.

We will commence our paper, in which some very heterodox views will be maintained, by a survey of the various theories about the origin of the Franks. One of these may be dismissed almost in a sentence. This is the theory of some too patriotic Frenchmen, including Dom Bouquet, Hadrianus Valesius, and Dubos, who argued that the Franks were of Gallic race—one author urging that they were descended from the Gauls who had formerly lived in the Hercynian forest. I need not say that no historian holds this view now. The facts are absolutely over-

whelming to prove that in language, in laws, in customs and institutions, in nomenclature, in their archæological remains—in fact, in everything by which we can discriminate races—the Franks were of Teutonic origin.

Another theory might be dismissed equally quickly if its existence at an early date were not interesting on collateral grounds. Rospatt, author of one of the famous "Programms," so well known in Germany (entitled "Kritische Beiträge zur Aeltesten Geschichte der Franken," p. 11), says: "When the Franks became a powerful nation, and when the literary class, the clergy, as well as the chiefs, chiefly consisted of men of Frankish origin, it was natural that classical antiquity should be searched through to find a becoming ancestry for the martial race which had now become so important. Virgil was then the most widely read and familiar writer, and the expedition against Troy and the foundation of Rome the most famous events in popular imagination. It was natural, therefore, that Troy should be made the point of departure of the French genealogists, and that the martial opponents of the Romans should be derived from Priam and his people."

A genealogy of the Carlovingians, printed by Pertz (ii, 310), has the phrase, "Priamus et Antenor egressi a Troja, venerunt in Secambria, et inde in Pannonia, et inde in Mæotides paludes, et inde juxta ripas fluminis Reni in extrema parte Germaniæ." Again, a scholiast to Fredegar, whose notice is printed by Bouquet (ii, 391), after describing the wanderings of the fugitives from Troy, goes on to say: "Denuo bifarea divisione Europam media ex ipsis par cum Francione eorum Rege ingressa fuit. Qui Europam pervagantes cum uxoribus et liberis Rheni ripam occuparunt. Nec procul a Rheno civitatem ad instar Trojæ nominis aedificare conati sunt . . . . et per Francionem vocati sunt Franci." Mr. Perry says this Trojan theory has been defended in modern times by Türk, "Kritische Gesch. der Franken." A false reading in Cicero's "Ep. ad Atticum" (lib. xiv, epist. 10), where Fangones has been corrupted into Frangones, has been brought forward to prove that the Franks were known by that name in the time of Cicero (Cluverius, "Germania Antiqua," iii, 82; "The Franks," by W. C. Perry, p. 41, note 1).

Of course this Trojan origin of the Franks is mere fable, but it is very curious how general these fables were. Ammianus Marcellinus, after discussing various theories about the origin of the Gauls, says: "Some, again, maintain that after the destruction of Troy, a few Trojans, fleeing from the Greeks, who were then scattered over the whole world, occupied these districts, which at that time had no inhabitants at all" (*op. cit.*, xv, 9).

We all know how many jibes have been cast at Geoffrey of Monmouth for a similar pedigree which he gives to the Britons, and few remember that, several centuries before Geoffrey wrote, the same story was told in a truncated form by Nennius, another proof that Geoffrey was not the inventor and impostor he is often made out to be. But returning to the Trojan story about the Franks. In the popular histories of the last century it was the fashion to deduce the line of Frank kings from an ancestor named Pharamund. Latterly, with every justice, this person has been treated as purely mythical. He is quite unknown to the earliest Frank chroniclers, Gregory of Tours and Fredegar, who would assuredly have mentioned him had he really existed. His name first occurs in an interpolated passage in a corrupt copy of Prosper of Aquitaine, where we read, under the year 417, the twenty-sixth year of Honorius: "Faramundus regnat in Francia." On which passage Mr. Perry speaks as follows:—"No value whatever is to be set on this passage of the work of Prosper, who lived in the fifth century." Two MSS. are extant, one of which appears complete and uncorrupted, and contains no reference to Pharamund. The other is full of irrelevant interpolations, and among them the passage above quoted, which probably dates from the seventh century. Henschenius, in his "Exegesis de Epistola Tungrensi," doubts whether the name occurs before the ninth century. Long ago, Leibnitz, in a famous paper on the Franks, which was published in 1720 as an appendix to Eccard's work entitled "Leges Francorum," suggested that Pharamund was a corruption of Priam, and we, in fact, find Prosper of Aquitaine, who died in 463, in his notice of Theodosius, saying, "Priamus quidam regnat in Francia quantum altius colligere potuimus." I am not sure that the name of Troy was not similarly suggested by that of the Tongri, in whose land the Franks were early settled.

The legend about Pharamund grew out of the interpolated passage above quoted, until, as Mr. Perry says, to Pharamund was ascribed, not only the permanent conquest made at this time by the various tribes of Franks, but the establishment of the monarchy, and the collection and publication of the well-known Salic laws. The "Gesta Francorum" make Pharamund the son of Marcomir, while in the "Genealogies" published by Duchesne he is made the father of Chlodio. As we have said, he is clearly a fictitious person, and must be erased from consideration as in the same category with the Trojan origin of the Franks.

A third theory about their origin, which is almost universally held now, is that the name connotes a confederation of Teutonic tribes which lived on the lower and middle Rhine, and which had long been known to the Romans under other names such

as the Sicambri, the Khamavi, the Bructeri, &c., &c., and which, in the latter part of the third century, adopted the common name of Frank. According to this theory, which has been adopted by Ledebur, Zeuss, and Grimm, among others, the Franks were not a new people, but an old and well-known race under a new name. This view is very plausible at first sight, and is apparently supported by some weighty evidence; thus, Gregory of Tours makes Bishop Remigius, when he baptised Chlovis, say to him: "Mitis depone colla, Sicamber, adora quod incendisti, incende quod adorasti" (Gregor. zur, 231). Again, Venantius Fortunatus, in addressing King Charibert, says: "Cum sis progenitus clara de gente Sygamber." Again, in the anonymous and contemporary "Life of the Bishop St. Arnulph," who died in the year 640, we are told, speaking of Dagobert, the son of Chlothaire, "ille acceptum ita altissima et profunda eruditia sapientia ut in Sicambrorum natione rex nullus illi similis fuisse narraretur."—*Acta Sanctorum*, July, vol. iv, p. 438.

In the "Vita Sigismundi" (Bouquet, iii, 402), we are told, speaking of the first appearance of the Burgundians, "In ipsis temporibus cum Sicambrorum gens; illicita convalescens manu, multas regiones et gentes finitimas cum suis Regibus propriis et subditus sibi ditiones prostrasset atque devastasset; inter alia occidentis regna Galliarum quoque fines invadendos audacter, licet inviti, petierunt." Again, in turning to the tribes neighbouring upon the Sicambri, we find Gregory of Tours quoting a passage of Sulpicius Severus, in which he mentions how Arbogast, pursuing Sunnon and Markomir, petty kings of the Franks, crossed the Rhine at the head of an army, ravaged the country of the Bructeri, as well as a village inhabited by the Khamavi, and that no one appeared to resist him, save a few Ampsuarians and Khattians, who, under Markomir, showed themselves on the neighbouring hills (Gregory of Tours, ii, 9). This passage seems to make the term Frank comprehend the Khamavi, Bructeri, Ampsivarii, and Khatti. Again, Ammianus Marcellinus, at an earlier date, tells us how Julian crossed the Rhine, and suddenly entered the district of a Frank tribe called the Attuarii, men of a violent character, who at that very moment were licentiously plundering the districts of Gaul (*op. cit.*, xx, 10).

These passages comprise the evidence upon which it has been generally argued recently that the Franks were a confederacy ot the several Rhenane tribes known from early day, and it will be noticed that the most direct testimony is in the case of the Sicambri, who by many have been treated as Franks *par excellence*. Yet when we come to sift this evidence closely we shall find that it is very unsatisfactory.

The Sicambri were a famous martial race, familiar to the readers of Cæsar, but they were entirely crushed and deported by Cæsar's successors. Suetonius, speaking of Tiberius, says: "Sicambros dedentes se traduxit in Galliam, atque in proximis Rheno agris collocavit" (Suet., "Oct. Aug.," 21), and in another passage, again speaking of them, says, "Germanico (bello) quadraginta millia deditionem trajecit in Galliam, juxtaque ripam Rheni sedibus assignatis collocavit." (*id.*, Tib., 9). Eutropius (75) makes the number of captives then transported 400,000. Aurelius Victor, in "Cæsar Augustus," has the phrase, "Sucambros in Galliam transtulit." Strabo, who was a contemporary, speaking of the German bank of the Rhine, says of the people who occupied this country, "some have been transplanted by the Romans into Keltica, and others have retired into the interior like the Marsi"; and of the Sicambri he adds, "there remain a small portion" (*op. cit.*, viii, 1, 3); and Tacitus, who speaks with great authority when the question is about the Germans of the Rhine valley, says in his "Annals" (lib. xii, ch. 39), "ut quondam Sugambri *excisi* et in Gallias trajecti forent."

A late poet, referring to the same event, has the following lines:—

> "Sic ripæ duplicis tumore fracto,
> Detonsus Vahalim bibat Sicamber."
> (Sidon, carm. 13.)

These passages make it clear that the Sicambri, as a trans-Rhenane nation, were practically extinguished; *excisi* is the very strong word used by Tacitus. They were transported west of the Rhine, and no doubt became Roman citizens. Tacitus tells us how they were employed in the Roman armies, and speaks of "Sugambræ cohortis prompta ad periculas" (Tacitus, "Ann.," iv, 47). This Sicambrian contingent had its headquarters in Pannonia, and founded the *ancient* city of Buda, called Alt-Ofen by the Germans. This place, now a mere village marked by numerous Roman remains, still bears, we are told, the name Sicambria. (Duchesne "Hist. Franc.," script. 1) has printed the following inscription about it:—

> "Legio Sicambrorum
> Hic præsidio collocata
> Civitatem ædificavit,
> Quam ex suo nomine
> Sicambriam vocaverunt."

These Pannonian Sicambri are also mentioned by Adam of Bremen (lib. i, ch. 3) in the phrase, "Driades, Bardi, Sicambri, Huni, Wandali," &c. (Ledebur, "Das Land und Volk der Bructerer," note 518). I shall revert to these Pannonian Sicambri presently.

The burden of my present argument is that the Sicambri were practically evicted from their old seats by the Romans. How completely we may best judge when we consider that the name, after the beginning of the first century, completely disappears and does not occur again for nearly three centuries, when, as we have seen, it is used as a synonym for the Franks. There can be only one reasonable explanation of this, namely, the one adopted by Leibnitz and others, that the Franks were called Sicambrians, not because they were descended from the Sicambrians, but because they afterwards lived in and occupied the old country of the Sicambrians,—just as the English inhabitants of the United States are called Americans, the Spaniards in South America are called Mexicans and Peruvians,—just as Englishmen at home are called Britons. When the Franks became a strong and active body the Romans naturally called them Sicambri, as living in the country whence their formidable enemies, the Sicambri proper, had come.

We shall be strengthened in this contention if we turn to the other tribes with which the Franks have been often identified: the Khamavi for instance. In the Peutingerian table they are mentioned as a distinct body from the Franks in the phrase, "Chamavi qui et Franci." Ammianus Marcellinus describes how the Romans, after defeating the Salian Franks, marched against the Chamavi, as if the latter were a different people (*op. cit.*, xvii, 8).

On turning to the Bructeri we find similar evidence. In the Peutingerian table, whose date has been so contested, but which was probably compiled somewhere in the third century, we find on the lower Rhine the words, "Chamavi qui et Franci"; south of this the word "Francia," and south of this again the word "Burecturi"; and, as Zeuss has argued, here we not only find both Bructeri and Franci, but we also find the latter occupying a part of the old country of the Bructeri; and when we come down to the time of Bede, when the Frankish dominion was limited and bounded very definitely, we find him speaking of the "Boruchtuarii" as being assailed by the Saxons. They were doubtless the "Bructeri" of the older authors, and lived in the *gau* "Boroctra," in Westphalia. In passages where these Boruchtuarii are mentioned they are, to my mind, most clearly distinguished from the Franks. Lastly, as to the Khatti: they were apparently the ancestors of the modern Hessians, and not Franks.

Jornandes has a passage which reads as if he thought the later Franks a different people to the earlier Germans. His words are, "Gothi Germanorum terras, quas nunc Franci obtinent, depopulaverunt" (*op. cit.*, ed. Closs, 50).

It would seem, therefore, that the Franks proper were essentially distinct from the Sicambri, Khamavi, Bructeri, and other tribes, and were not, in fact, a collective confederacy formed out of them. It is quite true that when the Franks became the dominant race on the lower Rhine, and conquered all their neighbours, the latter were called Franks—as the Gauls after the conquests of Chlovis were called Franks, and as the various tribes which followed the standards of Attila and Jingis Khan were called Huns and Mongols respectively; but this was a political use of the name, and not an ethnic one. Such a use, in fact, as we find in Agathias, in his work, "De Imp. et reb. Gest. Justiniani," where he says they were formerly called Germans. Procopius also speaks of the Germans now called Franks. An old scholiast upon Juvenal ("Satyr," iv, ver. 147) speaks of the Khatti and Sigambri as "Gentes Germanorum sive Francorum." So, again, Jerome, in his "Life of Hilarion," in a passage quoted by Aimoin ("Hist. Franc.," ii, 10) has the phrase "gens . . . apud historicas Germania nunc Francia dicitur antiqua," which in a MS. of the twelfth century given by Pertz is altered into "Germania in Franchonslant" (Ledebur, *op. cit.*, note 815). In these cases we see the specific tribal name Frank becoming a generic name, equal in connotation with German, and due to the prominent place filled by the Franks among the Germans.

On *à priori* grounds it is exceedingly improbable that a number of rival predatory tribes should amalgamate into a homogenous nation, and adopt a new name, and such a name, too, as Frank. It is not infrequent for a number of disintegrated tribes to join together under a common commander to meet some imminent danger, but this is a very different matter to a nation being formed and continuing its existence on the terms of a partnership. Assuredly we should have some evidence of it in the most reliable and valuable of all sources of evidence, namely, the Salian and Ripuarian Codes, but not a word is breathed in these laws suggesting such a conclusion. How, also, on this theory can we account for the existence of the two entirely separate bodies of the Salians and Ripuarians, with separate laws and organisations, yet both adopting the new name of Frank? How, also, account for the fact that the Roman writers should not describe the formation of such a confederacy on their borders?

Whichever way we view the question the objection seems insuperable to accepting the theory that the Franks were a mere confederacy of old Rhine tribes under a new name. While the direct evidence seems to be as conclusive that they were new-comers in the Rhine lands when we first hear of them. They came at the same time as the Saxons, who were new men

as we know: they not only came at the same time, but also as companions of the Saxons, and apparently assailed the borders of the Channel in conjunction with them. They were a maritime and piratical race, which the remains of the Kheruscan league were not. The remains of their language ally them with the Transalbian Teutons, the Saxons, Angles, and Lombards, and not with the Platt-Deutsch-speaking folk of Nether Saxony. They were ruled by a race of kings belonging to the sacred caste of the North, and known in their case as Myrvings, just as the other invaders of the Roman Empire, who came from beyond the Elbe in the third and fourth centuries, were. Their manners and institutions in early times were not those of a race long familiar with Roman civilisation, but of a martial race who had lived isolated from Roman influences.

The native tradition of their origin, as preserved by Gregory of Tours, makes them come from the East, from Pannonia, when they settled within the Roman borders, and does not identify them in any way with the old people of Westphalia. Their later intercourse with the English race in Britain points the same way. We find them linked several times with the Saxons in piratical attacks (*vide infra*). Procopius would have us believe that the Frank king, Theodebert, claimed some supremacy in Britain; and Pope Gregory, as Lappenberg has said, in his letter to the Frank kings, Theoderic and Theodebert, about the conversion of the Angles, seems to speak of them as subjects of the latter ("Saxons in England," i). Speaking, again, of the marriage of Ethelbert with Bertha, daughter of Charibert, king of the Franks, Lappenberg says that this connection between the princes admits the supposition of an intercourse between their subjects, and which, at a somewhat later period, does in fact appear to have subsisted at the great commercial fair of St. Denis, which was visited by Anglo-Saxons (*id.*, 130, 131).

On all grounds, therefore, I am constrained to the conclusion long ago adopted by Leibnitz, and recently by Beauvois, but which I reached entirely independently, and long before I read their works, that the Franks, like the Saxons, Angles, Lombards, &c., were recent immigrants into the area where we find them when they are first mentioned in history. Our next duty is to find out whence they came. Before considering this question, however, we must say a few words about their name. By the Latin annalists they were called "Franci"; in old High German, "Franchon, Franchono"; in Anglo-Saxon, "Frankan," "Francena"; and in Norse, "Frakkar" and "Frakka." Procopius calls them φραγγοι, and Libanius, "Phragkhoi"; in old Russian, "Fraji" or "Frajni." Grimm derives the name from the word "frank," meaning free, which in middle High German occurs

under the form "frech," while in Dutch it is "vrank" ("Gesch. der Deutsch. Sprach.," 358); but this is probably a *post hoc propter hoc* argument, and the term "frank," used as an adjective, is probably derived from the ethnic name "Frank," the Franks having been essentially free. Besides this argument we have the *à priori* improbability that a congeries of Teutonic tribes should have adopted such a name for itself as "free." Grimm virtually discards it, and favours another derivation from the Gothic *freis* and *friks, audax, avidus.* He quotes the fact that, in the preface to the Salian laws, the Frank race is called *inclyta, audax, velox,* and *aspera,* and thus establishes a connection with the God's name, Fria, Fricka, Fricco. This is, however, very far-fetched. Still more so is another suggestion of his, that the name is derived from the Gothic *hramyan* (figere), whence the Frank *adchramire,* and by the change of *ch* into *ph,* which is not infrequent, *adframire,* and the form *framea,* diminutive *frameca,* which in Anglo-Saxon becomes *franca.* Grimm inclines very favourably to this derivation. Others have deduced the name from the *francisca,* by which name the battle-axe of the Franks was called, as Isidore says: "Quas et Hispani abiusu Francorum per derivationem franciscas vocant" (*id.,* 361). It has been argued that as the Saxons were called from using seaxes, or short knives, the Suardones from using swords, the Longobards from using longbards (twin brothers of the better known halbards), the Franks were similarly called from using the francisca. Here again, however, we have an inversion of the argument; *francisca,* as the extract just quoted proves, is an adjectival form derived from the weapon used by Franks, and is not itself the root of the name Frank. Libanius has an etymology of his own (Zeuss, 326).

The fact is, the various etymologies suggested for the race-name Frank are none of them satisfactory, and we must turn elsewhere if we are to solve our difficulties. We have seen how, among certain Western authors, the name Frank became a generic one applied to the Germans.

Elsewhere it acquired a much wider generic meaning than this. Throughout the East, Frank is the synonym for a European, and not for the particular European whom we designate a Frank. The form of the name, as we thus find it in the East, is Feringhi. It has been supposed that the name with this meaning acquired currency there in the time of the Crusades, in which the chief actors were the French, and in which the armies consisted of a motley gathering of the Western nations. This I altogether question, and I believe it was not derived from the Crusaders, but from Byzantium,—not directly from the name Frank, but from the cognate name Varangian; Feringhi being in fact, only another form of Varangi. The Varangians formed

the foreign guard of the Byzantine emperors, which was recruited from many sources, and largely, as I believe, from the Low German races.

It became the name by which the Arabs called the Europeans generally, and from the Arabs it passed to the Chinese, who having no letter *r* in their language, replace it by *l*, and thus in the Chinese writers of the Mongol epoch, Europeans are called Fulangki.

The name Varangian was used in the same generic way by the early Russian chronicler Nestor, the source whence almost all we know of early Russian history is derived. The name by which he distinguishes the Baltic is that of the sea of the Varagians (*op. cit.*, ed. Leondel, Paris, 5, 6).

Under the year 859 he says: "The Varagians, *who live on the other side of the sea*, went and levied tribute on the Chudes, the Slaves, the Meriens, and the Krivitches."

Again: "During the year 860 to 862 the Varagians again crossed the sea. On this occasion the people whom they had already subdued refused to pay them tribute and wished to be independent, but there was not a shadow of justice among them: one family fought with another and caused great confusion. At length, to stop this they said to one another, Let us find a prince who will govern us justly. In order to find him we are told the Slaves crossed the sea and went to those Varagians who are called Russ-Varagians, as others are called Swede Varagians, others Urmans (*i.e.*, Normans), others Angli, and others Goths" (*id.*, i, 20).

In this passage Varagian qualifies the other names (Karamzin, i, 57), and we thus find the term Varagians used in Russia, whence it probably—nay, almost certainly—passed to Byzantium in a widely generic sense, including both Scandinavian and Germanic tribes, and apparently meaning all the borderers of the Baltic who were of other than Slave or Fin descent. The name occurs, for the first time in any Byzantine author, in the work of the Emperor Constantine Porphyrogenitus, De Ceremoniis. In describing the campaign against the Lombards in 935, speaking of the mercenaries in the imperial service, he mentions the Pharganoi. He names them several times subsequently. The next author who names them is Cedrenus in 1034, who, like the succeeding writers, calls them Baraggoi (Stritter, iv, Varangica, *passim*). It is a singular coincidence, which I did not notice till after this paper was nearly finished, that Jacob Reiske, in his notes to this part of Stritter, has the following note:—"Mihi dubium non est, Francos et Barangos et Waragos eosdem esse" (*id.*, 472). He quotes Barth and Ducange to the effect that the name Frank was formerly pronounced Feranki and

Faranki. In regard to the change of the initial *v* or *w* into *b* by the Greeks he quotes the similar corruption of Wallachi, or Vlakhs, into Blakhi (*id.*, 473). In the "Chronicon Casinense," ii, 37, 363, the name appears as Gaulanni (*id.*, 474–5). It has been urged that Varangi and Franci cannot be identified, since we find both Constantine and other great writers using both names—both Pharganoi and Phraggoi. This is true; but the fact is, one name had come from the Slaves and the other from the West of Europe, the latter having been meanwhile corrupted, and each form, although originally as I contend the same, had come to connote a different community.

We have thus traced the Arabic Feringhi to the Varangians at Byzantium, and this again to the Varagians or Varangians in Russia. The particular Varagians who infested Russia, Nestor tells us, were the Russ-Varagians; and we know from other sources, which are so generally familiar that they need not be quoted here, that in the ninth and tenth centuries these particular Varagians were of Norse race. Whence did they come? Nestor distinctly excludes Sweden and Norway, for he contrasts the Russ-Varagians with the Swede Varagians and Normans. Yet in most of the popular manuals we are gravely told that they were in fact Swedes; that at this day the Fins and Esthonians call Sweden *Ruotzi* and *Rootsimar*, and a Swede *Ruotzalainen* and *Rootslane;* and that a small district in Sweden is still called *Roslagen*. This is all very true, but it proves very little.

The Fins, according to the very probable and weighty opinion of Geijer, call the Swedes *Ruotsolaiset*, from the district variously called Roslagen, Rodeslagen, or Rodlen, by which names that part of the Swedish coast nearest to Finland was anciently known (*op cit.*, 12).

The name Roslagen, he says, has the same meaning as Skippslag, and he quotes the chancellor, Axel, in a protocol of the council of 1640, who says: "Rodslagen was so called because rookarlar (oarmen) or mariners, dwelt on the coast; for our forefathers were wont to assign to the seamen particular districts which they called Skippslag" (*i l.*, 22, note 2).

Its import, Geijer adds, is still preserved in the subsisting division of the district into ship cantonments. The arguments, therefore, from Roslagen and the Fin word Ruotzlainen fall to the ground, while we have the direct testimony of Nestor for making the Russ other than Swedes or Normans. Excluding Scandinavia proper let us take our journey along the southern shores of the Baltic, and before long we shall meet with another Russia—a Po Russia, or flat Russia, but as much a Russia as the grand principality of Kief, and as worthy of having its etymology worked out. On turning again to Karamzin we find him

telling us that Po Russia was the name given to the borders of the lower Niemen or Memel, to which the name of Russ has from early times been given. The lagune known as the Kurisch Haff is called Russia (Karamzin, i, 59). A settlement on the spit of land enclosing the lagune is called Rossiten; a little town on the river Russ itself is also called Russ; while a considerable town, called Rosinee, occurs not far from the Niemen in the government of Kovno, in Lithuania. These facts point to a considerable settlement of Russians proper in this area; that they were intruders may be presumed from the distribution of the names on the sea-board and their sporadic occurrence among a host of Slave names, and also from the fact that it is only the lowest reach of the great river Niemen which bears the name of Russ. This is again confirmed by tradition, for we are told by the oldest Prussan annalists that the first inhabitants of their land, namely, the Ulmigans, or Ulmigars, were civilised by Scandinavian settlers who knew how to read and write (Karamzin, *id.*, 60); and in a Russian work of the thirteenth century, called the "Stepennaia Kniga," and other more recent chronicles, Rurik and his brothers are made to go from Prussia (*id.*, i, 59). This is a by no means unlikely halting-place for them on their cruise eastwards, but it is quite clear that in this colony of the Russ we have not yet reached their original homeland. If we proceed westwards along the Pomeranian shore we shall arrive presently at the district where Lübeck is situated, and which we are told by Leibnitz in old Russian documents is called Variach. It was occupied in early classical times by the Varini, who are universally held to be the Warings, or Varings, of the "Traveller's Tale." Were these Warings then the Varangians of whom we are in quest, and *ex hypothesi* the Franks under an altered name? I believe so. It is curious, by the way, that a Persian author, quoted by Dorn, should speak of the Russ as the Farang-i-Russ (see Caspia, 29), while Simeon Metaphrastes speaks of Rosabro, called Dromiti, of the race of the Franks (*vide op. cit., sub. an.* 904, 941). Theophanes does the same. Let us now trace the history of the Varini as far as it is available. They are first mentioned by Pliny, who, in describing the Vindili, one of the great sections into which he divides the German race, says: "Vindili, quorum pars Burgundiones, Varini, Carini, Guttones." The Carini of this notice are not otherwise known. Grimm suggested that the name corresponds to Varini, as Sciri does to Hirri. He also quotes the name Hëruo, an island in Augermanland, and another island called Herua, or Heruár, in the Norwegian province Sunumæri, as possibly connected with them. But these seem far-fetched notions, and I am disposed to agree with Mr. Hyde Clarke, that

under the name Carini Pliny perhaps refers to the Angli, who are not otherwise named by him (See Hyde Clarke on the "Settlement of Britain and Russia," Trans. R.H.S., vii, 254).

Tacitus, who wrote in the time of Domitian, is the next author who mentions the Varini. Speaking of the Langobards he tells us they were surrounded by various tribes, and preserved their liberty rather by their martial virtues than by their servility. He enumerates these tribes in the following order, apparently beginning with the head of the Cimbric Chersonese:—The Reudigni, the Aviones, the Angli, the *Varini*, the Eudoses, the Suardones, and the Nuithones, who, he says, were protected by woods or rivers. They worshipped the common goddess, Hertha or Nertha (the name being spelt both ways in the MSS.), which he says means Mother Earth. They held that she meddled in human affairs, and visited the peoples. Tacitus goes on to mention an island in the ocean containing a sacred grove where her sacred chariot was deposited: it was covered with a vestment, and was touched by the priest alone. He was conscious of her being present, and thereupon the chariot was drawn out, pulled by cows. A general festival took place, and during her progress war ceased, arms were laid aside, and swords were sheathed. At length the same priest re-conducted the goddess once more to the temple. After this, the chariot and sacred mantle, and, if report was to be believed, the goddess herself, were bathed in a secret lake; slaves assisted in this ablution, after which the lake swallowed them up (Tacitus, "Germania," xl.).

This island is doubtless the island of Rugen, a very famous centre of pagan worship, and apparently the focus of the great Suevian race, of which the Angles and Lombards were notable sections. Tacitus adds that this part of the Suevian nation stretched far away into the hidden recesses of Germany.

We will now turn to the notice in Ptolemy. He tells us that next to the Saxons from the river Khalusos to the Suebos were the Pharadini. I have already discussed this passage in a former paper on the "Migration of the Saxons" ("Journ. Anthrop. Inst.," vii, 293–4), and have shown that these Pharadini of Ptolemy were the Varini of Tacitus, and that the district between the Khalusos and Suebos is that of Mecklenburgh, which by every inquirer is made the original homeland of the Varini, and which, as I there showed, still contains traces of their occupancy in its nomenclature. I have hinted before, and shall enlarge upon the subject in my next paper on the Angles, that between the time when Tacitus wrote and the era of Ptolemy, *i.e.*, about A.D. 90, a very considerable change had taken place in the distribution of the tribes on the Elbe, and that by the invasion of the Saxons, who apparently came from the

eastern Baltic, there was a considerable disturbance in the neck of the Cimbric Chersonese. We thus find the Lombards broken into at least two sections, and it seems probable that the Varini were also so divided, and that while we have in the Pharadini of Ptolemy the main portion of the race we may trace another fragment of it under other names. He tells us that between the Saxons and the Suebi (*i.e.*, the Semnones) were the Teutonarii and Viruni. Between the Pharadini and Suebi were the Teutoni and Auarpi (*id.*, lib. ii). Zeuss argues that this name Auarpi, which apparently occurs nowhere else, is in fact a corruption of Auarni or Ouarni, and argues further that Viruni and Ouarni, or Warni, are merely forms of the same name, and both were forms of Varini. Teutonis and Auarpi, therefore, seem to be a mere repetition of Teutonarii and Varini, and the statements of Ptolemy simply mean that between the Saxons in Holstein, and the Pharadini in Mecklenburgh on the one hand, and the Semnones of Brandenburgh on the other (*i.e.*, doubtless, as Zeuss urges, in Havilland) was a tribe of Warni or Viruni, who were, as I believe, a mere section of the main tribe in Mecklenburgh.

In his description of the European Sarmatia, Ptolemy apparently refers to another section of the Varini under the name of Auarini, whom he puts near the sources of the Vistula, and next to the Ombrones. Ombrones, it will be remembered, is a synonym for the old Saxons in some of our early writers, and for Jutes in others, so that this collocation makes it very probable that by Auarini the Varini are really meant. Our contention, then, is that between the days of Tacitus and those of Ptolemy a considerable revolution had taken place among the Suevic tribes, and one consequence was the breaking of the Varini into two or three sections, one of which moved southwards in the direction of Pannonia. Another one, as I believe, remained behind in its old quarters.

Let us now try and follow the section of the Varini which, as we have seen, apparently migrated along the valley of the Elbe. We have seen how Ptolemy already places them in Havilland. Jornandes tells us that Theodoric, King of the Visigoths in the middle of the fifth century, having subdued the Suevi in Spain, set over them Achiulf, of whom he says: "Is sequidem erat Warnorum stirpe genitus, longe a Gothici sanguinis nobilitate sejunctus" (Jornandes, xliv; Zeuss, 361). Cassiodorus, again, speaks of the envoys sent by Theodoric, the Gothic king, to the kings of the Heruli, Guarni, and Thoringi (Cass. Var., iii, 3; Zeuss, *id.*); while Agathias describes the Franks as being neighbours, and as being in contact with the Italians.

From these extracts it would seem, therefore, that the one

section of the Varini was closely associated with the Goths, and doubtless, therefore, occupied, as Dr. Latham has suggested, a part of the Danube valley. Here we arrive at the critical part of our inquiry, namely, the link joining the history of the Varini and the Franks. As is well known, Gregory of Tours, the most reliable of the Frankish annalists, and who from his early date and official position had special means of knowing what the traditions of the people were, tells us that a great number reported that the Franks, having abandoned Pannonia, established themselves on the banks of the "Rhenus," crossing which, they passed into the country of Toringia, where in their towns and villages they made the long-haired kings chosen from their most noble family their leaders (*op. cit.*, ii, 9).

It has been suggested that this reference to Pannonia has arisen from a reminiscence of the Sigambrian colonists, who founded Buda Pesth as we have seen, but this is very improbable. It is very doubtful if such a point as the fact of these irregular troops having founded Buda could have reached the ears of Gregory of Tours, while his statement is perfectly consistent with our contention that it was a body of the Varini of the Danube valley to whom he refers. The latter part of the clause has given rise to great discussions. It has been contended very generally that by Toringia Gregory does not here mean what he usually means, that it is not Thuringia to which he alludes, but the district of the Tongri, from whom the modern town of Tongres takes its name, and this in fact seems the only solution, if we are to accept the general view that the Franks, in migrating from Pannonia, crossed the Rhine when they entered Toringia, but on this point there is great doubt. M. Guizot, in his note, says it is doubtful whether we ought to read Menus or Rhenus, but the majority of the MSS. have the latter; but granting this we still have the further question whether by Rhenus is here meant the Rhine. Upon this there has been much controversy. Leibnitz, who was a very ingenious and critical writer, says that the river dividing Pannonia and Thuringia is the Regen, and argues that the Rhenus of the passage of Gregory of Tours just cited was the Regen and not the Rhine, and he cites several cases of the similiar elision of the *g*, as Regenbart into Rembart, Regenbold and Reunbold. Regunnar and Reunnar, Regenstein and Remstein, Regenesburg and Remesburg, &c.

Further, we know that in early times the Thuringians inhabited the country as far as the Regen, and even further, as far as the Danube, as we gather from the narrative of the Anonymous Geographer of Ravenna. "Iterum desuper ipsam, quomodo ut dicamus ad faciem patriæ Francorum Rhinensium

est patria, qua dicitur Turingia, qua antiquitus Germania nuncupatur, qua propinquatur et patria Saxonum. Quam in patriam secundum præfatum Anaridum philosophum designavimus. In qua patria aliquanta castella fuisse legimus id est. . . . Per quam Turingorum patriam transeunt plurima flumina, inter cetera quæ dicuntur Bac et *Rheganum* quæ in Danubeo merguntur." Bac et Rheganum here mean, assuredly, as Leibnitz argued, the Nab and the Regen. That the Thuringians lived on the Danube in the fifth century we further learn from the "Life of Saint Severinus," by Eugippius, in which Thuringian invasions into Vindilicia are mentioned (*op. cit.*, 27 and 31).

Now it is a very remarkable fact that on crossing the Regen, in coming from Pannonia, the Franks would enter the district which I hold to be the typical land of the Franks, which is called Franconia in mediæval literature, and Franken by the modern Germans, which lies between the Danube and the watershed of the Main, and is traversed by the ranges of hills known as the Franken Hoheis and Franken Jura.

It is curious how in the various theories about the origin of the Franks there is no reference to this district having, *primâ facie*, been the primitive Frankland. The best possible proof of it is to be found in the preface to the "Laws of the Salian Franks." There are two well-known theories about the origin of the name Salian as applied to the Franks: one derives the name from the river Yssel, in Holland, near which is the district of Salland. The other theory connects them with the Saale, whose upper course flows through the district of the Franken Wald, which forms the north-eastern part of the district of the Franken. That the latter view is correct we conceive to be indisputable from the best of all witnesses, the introduction to the Salian code, which dates apparently from the pagan period. There we read that the laws were drawn up by Wisogast, Bodogast, Salogast, and Windogast, in the districts of Salagheve, Badogheve, and Windagheve, or, as another MS. has it, in Salaheim, Bodoheim, and Windoheim. The four names here given are clearly not proper names, but official ones, denoting officers attached to the gaus. Gast means, according to Eccard, *hospis* or *advena*.

Now on turning to the names of the gaus we find from the old annals of Fulda that Salagheve is in fact the name of a gau on the Saale, in Franconia; Bodagheve is a gau-name derived from the river Boda, at the foot of the Hartz mountains; and Wisogheve from the river Wisera. It will be noticed that there are four officials mentioned and only three gaus, and Eccard suggests that the name of a gau has dropped out equivalent to the Wisogast. He adds that, as the realm of the Franks extended from the Franconian Saale to the Bode, it included the

gau of Werra, formerly called Wirrah ha, and that Wisogast has been corrupted from Wirogast, *r* and *s* being easily mistaken for one another. Werro gau lay between Sala gau and Windo gau, on both banks of the Werra, where the county of Henneberg now is.

This evidence seems conclusive about the original home of the Salian Franks being the country bounded by the Main, the Hartz, the Visurgis, and the Saale and Elbe, and not Salland in Holland. The latter, in fact, apparently took its name from the Salians and not *vice versâ*, and it is more likely that this name was derived from the Saale, which was called the Sala, and not from the Yssel, which was never so called.

Our theory, then, is that the Franks were a colony of Varangians, or Varini, who made their way from Pannonia over the Regen, and founded a community in Franconia. We must next consider how the change of name came about.

Nothing is better settled than that the language spoken by the Franks belonged to that section of Platt-Deutsch to which the Anglian and Lombard belonged. This has been made clear from a study of the Malpergian glosses, &c. Until recently, however, a very different view prevailed, and in fact, in linguistic works, Francic was used as a synonym for a very typical High German dialect. This was natural to those who examined the later traces of the language, or examined it as spoken in Franken, where a language is spoken as markedly "High" almost as among the Suabians. This is indeed a dilemma, if we accept the linguistic creed of that magnificent explorer Grimm in its entirety, namely, that High German is an old Teutonic speech, bearing a collateral relation to the Platt-Deutsch of Hanover, but this view is no longer tenable. It is now being seen, and we shall have occasion to revert to the fact in a future paper, that High German is a comparatively modern tongue, probably dating no earlier than the sixth century. My own view, which I urged in a letter in the "Academy" some time ago, is that High German arose from the contact of the Romance-speaking folk, who lived in the Roman districts south of the Main, with the Platt-Deutsch-speaking invaders of that district—just as our English arose from the contact of Anglo-Saxon with the Langue d'oil, spoken by the Norman invaders of the eleventh century.

If this theory be sustainable, it follows that the Frank speech was originally a Low German language, which became High German by contact with the Roman provincials. Now one of the effects of this very change would assuredly be the conversion of the name Varing or Wareng into Farenk or Frank. To this day the word frank is spelt vrang by the Dutch of

Holland. I believe this offers a very reasonable explanation of the origin of the name Frank.

I will now add to this argument about the origin of the Franks from among the Varini, which I traced out before I read the tract of Leibnitz, another argument by which he says he was induced to the same conclusion. The author of the tract, who is generally quoted as the "Anonymous Geographer of Ravenna," was doubtless a German by origin. He dedicates his book to his brother Odocar (*op. cit.*, i, 13).

He puts Jerusalem in the middle of the world, which he makes circular, and divides into two portions by a line passing through that town—the night to the north, the day to the south. The first hour of the night is Germany, the second the country of the Frisons; the third Saxons. In regard to the fourth he says (lib. i, ch. xi): "Quarta ut hora noctis Normannorum est patria, qua est Dania ab antiquis, cujus ad frontem albes vel patria Albis *Maurungania* certissime antiquis dicebatur, in qua patria Albis per multis annos *Francorum linea remorata est.*"

Leibnitz explains the phrase "Francorum linea" as meaning the line or stock of Frank kings, and quotes a similar phrase from Paulus Diaconus, "Langobardorum faras hoc est gubernationes vel lineas"; again, in the "Vita S. Genulphi de Childerico": "Hic vero linea prosapiæ Pharamundi" (Leibnitz, *op. cit.*, 252, note). According to the passage of the Anonymous Geographer of Ravenna the Frank kings derived their origin from the district of Maurungavia, beyond the Elbe. The same district is referred to by Paulus Diaconus, in reporting the migrations of the Lombards. He calls it Moringia, and couples it with Scoringia. The names Mauring and Scoring, like the name Thuring, *cum multis aliis*, I take to be Norse clan names. In the case of Thuring, a mere corruption of Terving, the well-known name of the royal family among the Visigoths; in Mauring, a form of Merving, which was the actual name of the royal stock among the Franks, as we shall presently show. This etymology is assuredly most reasonable, explaining, as it does so completely, the phrase of the Anonymous Geographer of Revenna above quoted.

Mauringania, according to this view, is the land of the Mervings—both, perhaps, derived from their situation near the sea. In Icelandic, *myre, myri, mor;* Anglo-Saxon, *mire, mor;* Frisian, *myre, moer, moor, marth.* Thence the adjectival form *myrig*, which, with the ethnic termination *ing*, becomes by syncope, *Myrging*, as M. Beauvois ("Histoire Légendaire des Francs et des Burgondes," 1867) says. He adds that the Frisians of Resum Moor, west of Laek, in Slesvig, are still called Mauringe, or Moringe, citing in proof, *inter alia*, "Die

Nord Frieshische Sprache noc der Moringer mundart," by B. Bendsen, edited by M. de Vries, 1860).

In the Scop's tale the Myrgings are mentioned very frequently, as in line 8; in line 47, where we are told Meaca ruled over the Myrgings; in line 86, describing how Offa the Angle king enlarged his borders towards the Myrgings, by Fifeldor (*i.e.*, probably the Eider), and in lines 170, 172, and 194. I may add that Thorpe, in his notes, identifies the land of these Myrgings near Anglen with the Maurungania of the Anonymous Geographer of Ravenna (Thorpe's "Beowulf," 328).

We are not limited, however, to the Geographer of Ravenna. Ermoldus Nigellus, a famous Frank poet, writes:

> "Hic populus porro veteri cognomine Deni
> Ante vocabatur et vocitantur adhuc.
> Nort quoque Francisco nomine manni,
> Veloces, agiles arungerique nimis
> Ipse quidem populus late pernotus habetur,
> Lintre dapes quærit, incolit atque mare.
> Pulchra adest facie cultuque statuque decorus,
> *Unde genus Francis adfore fama refert*
> Victus amore Dei generisque unsertus aviti,
> Temptat et hoc Cæsar lucrificare Deo."
> (Dom Bouquet, iv, 50 and 51; Pertz. ii, 501.)

Here we have a tradition that the Franks were derived from the Danes.

Again, another contemporary of Louis le Debonnaire, Freculf, Bishop of Bayeux, who died in 850, refers in his "Universal History" to the opinions most generally held about the origin of the Franks, and adds: "Others affirm that this people came from the island of Scanzia, this mother of nations, whence sprang the Goths and other Gothic peoples, as their language attests. There is still in that country an island which they say is called Francia. By the grace of God we hope to treat more fully of this matter in the next volume" (vol. ii, ch. 17). Unfortunately Freculf does not seem to have carried out his intention.

The fact of these three authors all writing independently, makes their concurrence very interesting and remarkable. There are other facts pointing the same way: thus in the "Gesta Regum Francorum" we are told the Franks came from the Mæotis, but the Mæotis and the Baltic were frequently confounded. Thus Adam of Bremen says: "Fortasse mutatis nominibus arbitror illud fictum (mare Balticum) ab antiquitate Romanis appellari paludes Scythicas vel Mæoticas." Again, Fredegar, although much confused, seems also to put Franks on the Baltic (Eccard, *op. cit.*, 255); and it is not improbable that when Jornandes put the Heruli on the Mæotis he confounded it with the Baltic, as in the case of Procopius with the Vandals: so argues Leibnitz. It

is a remarkable fact that both Leibnitz and Beauvois, although bringing the Franks from the Elbe country, do not seem to have realised at all their possible relationship to the Varangians and Varini, which first made me come to the same conclusion—virtually, therefore, by an entirely different road. What is perhaps the most conclusive proof of all of our contention is that the Franks, like the other trans-Albingian tribes who appeared contemporaneously with them on the borders of the empire, were ruled and led by chiefs belonging to the yellow-haired sacred stock of the North,—to the same stock as the leaders of the Goths, Lombards, Saxons, Vandals, &c.

The Edda states that Odin set his sons *inter alia* over Frankland, and thence derives the stock of the Folsungs; while Gregory of Tours (ii, 29) makes Chlovis, when his wife first exhorts him to acknowledge the God of the Christians, exclaim, "Nec de deorum genere esse probatur."

The result, then, of our argument is that the Varini, who once occupied a long stretch of coast along the Baltic, were broken to fragments, shortly before Ptolemy wrote, by the advent of an invading race, probably the Saxons; that while one large body remained in its old quarters in Mecklenburgh, another moved up the Elbe, and apparently found its way into the valley of the Danube, where it lived in close contact with the Goths. Thence it crossed over the Regen into Franconia, and gradually altered its character from a Low German to a High German stock; and meanwhile, also, its Low German name of Varang, or Varing, was changed to its High German name of Frank. The subsequent history of the emigrants we shall revert to presently, and shall now consider the remaining body of the Varini, who were left behind in Mecklenburgh.

It is to these Varini, no doubt, that Procopius refers when he tells us how the Heruli, after being defeated by the Lombards in Pannonia, separated—some going to Illyria, while others, unwilling to cross the Danube, preferred to settle in the most distant regions of the earth; . . . after traversing a great solitude they came to the Ouarni, and then traversed the country of the Danes (Procopius de Bello Gothico, ii, 15).

Later on Procopius tells us how Risiulf fled from his uncle Vaces, the King of the Lombards, and sought refuge among the Ouarni, and left two sons there whom Vaces bribed the Ouarni to put away: one of them died of sickness, and the other escaped to the Slavini (*id.*, iii, 35).

Another reference to these Varini is found in the well-known Scop, or gleeman's tale, where the Waernas are casually mentioned (*vide* Thorpe's edition, line 119).

From this time onwards we do not again meet with a refer-

ence to Varini in this district, and when Adam of Bremen refers to it in the twelfth century the Teutonic Varini had long disappeared and been displaced by the Warnabi, or Warnavi, who were Slaves, and whose name was a geographical and not an ethnic one. I have had much to say about them in the paper on the Obodriti.

What became of the Varini, then, who were neighbours of the Angles? It is not improbable that the greater portion of them shared the fortunes of the latter. We find traces of them in after times in several districts. Wärnsland, or Wärendshäräd, a district of Smäland, in Sweden, seems to preserve their name. The Varangar Fiord in Lapland probably does so also. Thirdly, we have a notable colony in Thuringia.

The heading of a well-known code of laws, dating perhaps from the tenth century, is "Incipit lex Anglorum et Werinorum hoc est Thuringorum." This clause has been much debated, but it is now pretty generally agreed that it refers to the laws of two small communities in Thuringia, and assuredly we still find a gau there called Engelin, or Englide (Zeuss, 153, note), while an adjoining gau was called Werina gowe: this was situated on the river Werra. Grimm has pointed out, what is assuredly very curious in our contention, that the fines in these laws are very similar to those in the Salian and Ripuarian, and very different from those in the Alemannic and Bavarian codes.

These laws are apparently referred to in a clause of the Anglo-Saxon laws of Cnut, when in speaking of the weregilds, we read: "Pretium hominis mediocris (*i.e.*, ingenui) quod secundum legem Werinorum (*i.e.*, Thuringorum) est ducentorum solidorum" (*op. cit.*, 420).

We shall have more to say about this code in our next paper on the Angli.

We may take it, therefore, as probable that a section of the Varini, with some Angles, settled in Northern Thuringia. A much more important body emigrated westwards, however, and was settled in the sixth century about the mouth of the Rhine, as is clear from the statements of Procopius and Fredegar. The former has a curious notice of them. He tells us that the soldiers who inhabited Brittia (*i.e.*, Great Britain; he seems to refer to Ireland as Britannia) had a struggle with the Varini. He says the Varini lived beyond the Ister (*i.e.*, the Danube), and reached to the Northern Ocean, and to the Rhine, which separated them from the Franks and other neighbouring tribes . . . not long before, the Varini were ruled over by Hermegiselus. Wishing to strengthen his position he married the sister of Theodebert, the King of the Franks, his former wife having

died. She had left an only son, called Radiger, whom his father had married to a British damsel (whose brother was then King of the Angles), and had given him a large gift of money as a dower. Once, when riding in the fields with some of his grandees, he saw a bird sitting on a tree and vociferously clamouring. Whether he understood what the bird said or not, he said to the bystanders that he would die forty days later, and that this was what the bird meant to say. Thereupon he went on to say further: "I deem this a providential intervention that you should live in the greatest safety. For this reason I married a Frankish wife, and wedded my son to a British damsel. Now, inasmuch as my life is to be a very short one, and as I have had neither male nor female offspring from this wife, nor has my son consummated his marriage, I suggest a course which, if you deem right, then confirm and carry it out. I deem it more profitable for the Varini to ally themselves with the Franks than with these islanders: trade with the Britons is difficult and precarious, but between the Varini and the Franks there is only the Rhine. The latter are also in a position to do us harm or treat us well as they please. Whereupon I council that my son's alliance with the British damsel should be reversed, and that she should receive the marriage gift already paid in lieu of her loss, and that my son Radiger should, as our law permits, marry his mistress."

Having said this he, forty days after, died; and his son having succeeded him asked counsel from the grandees, and in accordance with his father's wish put away his British spouse and married his mistress. The former was much enraged; for, says Procopius, among these peoples so much is chastity valued that a woman is deemed no longer a virgin who is merely contracted in marriage. She first sought reparation by means of some of her people, whom she sent to inquire why the marriage had thus come to an untimely issue. Getting no redress, the Angles collected 400 ships, and, according to Procopius, put an army of 100,000 men (?) upon them, and set sail for the country of the Varini, the armament being commanded by one of her brothers, who was not the king. Procopius then goes on to make statements about the islanders, some of which are evidently due to profound ignorance of them. He says they were the bravest among the barbarians known to him; that they fought on foot and not on horseback; in fact, they did not know what a horse was like, for that animal did not live on the island, and that when their envoys or others were on their way to the Romans or Franks, and had to travel on horseback, they did not know how to mount, but had to be helped up and down by others. In the same way the Varini were not horsemen, but fought on

foot alone. All on board plied the oars, and the ships were impelled entirely by rowing, and bore no sails.

The Angles having landed, the Varini were defeated in a great battle, and fled with their king. Meanwhile, the injured maiden remained with an escort near the mouth of the Rhine; she received her victorious countrymen on their return from pursuing the Varini with bitter reproaches, inasmuch as they had not captured Radiger. She ordered them to return, and they then proceeded to scour the country, and eventually found Radiger hiding in a wood, and carried him off to their martial mistress, before whom he stood trembling, expecting instantly to be executed. But she, deeming herself sufficiently avenged, asked merely why he had broken off their engagement and married another. He pleaded his father's will and the counsel of his grandees, and offered to make reparation by marrying her. To this she assented. He was accordingly stripped of his chains, and the sister of Theodebert having been sent home, Radiger married the Anglian princess (Procopius de Bella Gothico, iv, 21). This is generally dated in the year 551 (Stritter, iv, 416–423).

Three years later, namely, in 554, Agathias mentions that Vacamo, a warlike person, with his son Theodebald and the Uarni who were with him, went to the emperor in Italy (*id.*, 423).

Fredegar, writing of the year 595, describes the virtual extermination of this colony of Varni. He tells us how in that year Childebert fought bravely against the Varni, who tried to break the yoke, and such a massacre ensued that few survived (*op. cit.*, ed Guizot, 181). It is not improbable that the name Wieringerwaard on the Dutch coast, is a relic of this colony of the Varini. They were not the only Varni or Varini on the borders of the North Sea, and, as is natural, we find numerous traces of them in Britain. Their name seems preserved in Warrington, in Lancashire and Buckinghamshire, and at Werrington in Devon and Northamptonshire, while their royal race of the Billings is found in no less than thirteen places, as Billinge, Billingham, Billingley, Billington, and Billinghurst (Taylor, "Words and Places," 136).

My good friend Dr. Angus Smith has reminded me that we also have traces of the Varini, with the primitive form of the name, in such places as Varengeville and Varennes, in France. We thus, if our contention be right, can trace the progress of the Varini westwards by two streams—one a northern stream, which carried them where Low German was the only Teutonic language spoken, and where consequently they preserved their original name, and the other which carried them through a district where Platt-Deutsch has been converted into Hoch-Deutsch,

and where consequently the name has been sophisticated, and has assumed a High German form.

Before we collect the various passages relating to the history of the Franks, we must say a few words about the *Liti*, or *Læti*, by which name they were sometimes known.

Waitz thinks the name *Liti* was not in use in the earlier time among the Bavarians and Alemanni. The name occurs in some later titles of the Alemannic laws, but this he derives from Frank sources.

The name is not to be found in Tacitus, and it seems clearly not to be of German origin, but introduced by the Romans, and derived from *lito*, a debt, referring to the stipendiary character of the services of the tribes, who were allowed to settle within the borders of the empire, and were granted lands to settle upon on condition of rendering military service for them.

Maurer, in his "Der Frohnhöfe in Deutschland," p. 12, says:—Between the free and the unfree, or slaves, stood a third class, variously called *Liti*, *Læti*, *Lazzi*, or *Aldioni*. This class dates from Roman times; at least, as early as the third century, the Romans employed their Germanic neighbours to guard the frontiers, to plough their lands, tend their cattle, and recruit their armies. Thus we read: "Omnes jam barbari vobis arant, vobis jam serunt, et contra interiores gentes militant. Aruntur Gallicana rura barbaris bobus—frumento barbarico plena sunt horrea" (Flavius Vopiscus, Probus, 14, 15; Maurer, *op. cit.*, 13). The Romans also employed in their service whole tribes, or sections of tribes, of barbarians under their own commanders, who were styled *præpositi* or *rectores*. These bodies were called *gentiles*, and in some cases (Maurer says when they were of German, Celtic, or Gallic origin, but this is doubtful) they were called *læti*, *leti*, or *letoi* ("Th. de Veteranis," vii, 20, ann. 369, 400; Ammianus Marcellinus, xvi 11, xx 8, xxi 13; Jornandes, xxxvi; Zozimus, ii, 54; Eumenius, "Panegyr, Const.," xxi; Maurer, *id*).

That *læti* and *liti* were forms of the same word appears from a deed of the year 1377, where we read, "Vocantur vulgariter in illo Theutonico Laten, et inibi in Latino Litones"; while an ancient gloss quoted by Graff explains *litus* by *laz* (*id.*, note 95). The word occurs with the forms *liti*, *lazzi*, *lazi*, *lassi*, *lati*, *luti*, or *leuti*, in various Saxon and Westphalian diplomatic documents; and in later mediæval times as *Lassen*, *Laten*, *Latelude*, and *Litones;* in the laws of Ethelbert as *læt*. It also occurs in the Salian and Ripuarian laws; in a Hessian breviary of the beginning of the ninth century; in several documents relating to lands near Darmstadt and on the Rhine; in a document of the year 706, relating to the abbot of Echternach, near Treves;

and in one relating to Fulda (*id.*). They are also named in the Burgundian laws, in those of the Frisians, and apparently all over the Frank Empire; also among the Bavarians, Alemanni, and Lombards. Among the Bavarians, while they are sometimes called *liti*, they are more often called *barscalci, barscalki, parscalci, parskalki, parscalchi,* or *parscalhi.* Among the Alemanni the *liti* were sometimes called *parones* or *barones.* "Mancipios tres et parones quatuor"—*vide* a deed of the year 744, quoted by Neugart (*id.*, 28). Among the Lombards they were sometimes called *Aldiones* or *Aldii:* "Aldiones vel Aldianæ . . . ea lege vivunt in Italia . . . qua fiscalini vel lites vivunt in Francia."—"Lev. Lom.," iii, 29, ch. 1 (Maurer, 18, note 29).

Waitz says the name is not found in the laws of the Goths nor their related tribes (Deutsche Verfassung, &c., i, 176), nor are they named in the laws of the Thuringians (*id.*, 176–7, note 4).

It is clear that both *Gentiles* and *Læti* were generic and not specific names applied to various tribes, as is shown by Zozimus and others, both ancient and modern writers. This is best shown by the old laws, as for instance, "Quisquis igitur lætus Alemannus, Sarmata vagus," &c. ("Th. de Veteranis," vii, 20), and in the *Notitia,* where we read, in chapter xl, of the "præfectus Lætorum Teutonicianorum; præf. Lætorum Batavorum et gentilium Suevorum; præf. Lætorum Francorum; præf. Lætorum Actorum; Epuso Belgicæ Primæ; præf. Lætorum Nerviorum; præf. Lætorum Bataorum, Nemetacensium; præf. Lætorum Batavorum Contraguinensium; præf. Lætorum Lagensium" (Maurer, *id.*, note 84). We read of their holding land: "Terrarum spatia quæ gentilibus; hæc spatia vel ad gentiles" (C. Th. de terris limit. vii, 15, ann. 409); "terræ læticæ" (*id.*, de Censoribus, xiii, 11, ann. 399); and therefore it is very probable they paid tax or rent, or gave military service for it. Jakob Gothofridus, Grimm, and Gaupp identify these early *Læti* with the later *Liti* and *Lati,* and identify them with the class known in later times as "Hörigen" (Maurer, 14). They were found, however, among those who were not subject to the Romans, as among the Saxons ("Annales Laures." ad. ann. 780), "tam ingenuos quam et lidos"; again, in the Saxon capitulary of the year 789, "nobiles et ingenuos similiter et lidos" (Chron. Moissiac ad. ann. 780); "tam ingenuos quam et lidos" (Maurer, 14, note 92). The name *Liti* answers to the *Coloni* and *Liberti* of Tacitus, and in later times the names are used indifferently (*id.*, 15). Maurer argues against Walter that the great bulk of the *Liti* were not derived from those who were once free and had lost their liberty. He on the contrary says the change from one class to another was infrequent. He cites two instances only—one of a noble becom-

ing a *litus*, from a document of the ninth century, "Vulfric quondam nobilis solidum nunc noster litus est," and another in a deed of the year 800, "sunt aldiones duo, qui propter hostem ad ipsam villam se tradiderunt" (*id.*, 15, notes 94, 95). The greater part of the *Læti*, he says, sprang from conquered tribes. Thus in the "Annales Lauriss" ad. ann. 77 we read: "Multitudo Saxonum baptizati sunt, et secundum morem illorum omnem ingenuitatem et alodem manibus dulgtum fecerunt" (*id.*, note 96). This is confirmed by the legends preserved by Meginhart (Pertz, xi, 675), and by Adam of Bremen ("Hist. Eccles.," i, 4): "Qui Saxones eam (terram) dividentes, cum multi ex eis in bello cecidessent, et pro raritate eorum tota ab eis occupari non potuit *partem illius*, eam maxime qua respicit orientem, *colonis tradebant*, singulis, pro sorte sua, *subtributo* exercendam"; also Witukind (Pertz, v, 424): "Saxones igitur possessa terra summa pace quieverunt, societate Francorum atque amicitia *usi parte quoque agrorum cum amicis auxiliaris aut manumissis distributa* reliquias pulsæ gentis tributis condempnaverunt: unde usque hodie gens Saxonica triformi genere at lege præter conditionem servilem dividitur" (Maurer, *op. cit.*, 98). This view is doubtless the correct one, and wherever we find *liti*, or an equivalent class among the Germans, we may be sure we are in the presence of the conquest of one tribe by another.

In South Germany the conquered race was the old Roman population, as Waitz has pointed out. The Roman population was probably, at the time of the invasion of the German tribes, in a position of dependence, and did not consist of free landowners, and did not largely change its status. The colonists were called *tributarii*, or *tributales*, as was also their land. Thus we find them mentioned in the Salzburgh *Notitiæ donationum* and the *Congestum Arnonis* as "tributales Romanos . . . colonos, tributarios; Romanos et eorum tributales mansos; *de Romani* tributales homines 80 cum coloniis suis." Paul the Deacon (xi, 32) says of the Romans, "tributarii efficiuntur" (Waitz, ii, 163, note 1). These *tributales* are contrasted with the servile class: "mansis inter servos et tributales necnon et exercitales homines" (Noldon, xxxiv); "servos manentes in coloniis quatuor et alios tributales manentes in coloniis 10" (Cod, "S. Petri," iv, 293; Waitz, *op. cit.* ii, 163, note 2).

As we have seen, the class does not occur in the Gothic laws (*id.* i, 176), nor in the laws of the Thuringians (*id.*, 176–7, note 4), making it very probable it was originally of Roman inception.

Aldiones, or *Altones*, also occurs in Bavarian deeds of the eighth century, and were terms also used in Saxony (*id.*, 18, notes 30, 31). They stood between the freemen and the slaves—differing

from slaves in that they enjoyed personal freedom. Thus in an old gloss given by Lindenbrog, "Aldius statu liber," and in a definition from old Lombard sources, "Aldia, id est de matre libera nata" (*id.*, 19, note 33), and again in another definition in a deed of 825, "Barshalki (liberi homines qui dicuntur barscalci);" and the word is used interchangeably with *ingenui* and *liberi:* we read of slaves being freed as "*Liti, Aldioni,* and *Frilazzi*" (*id.*, 19, notes 38–40). In early times, if the *Liti, Aldioni,* or *Lazzi* married with slaves, they were put to death (Pertz xi, 675). In later ones, if an *Aldia* or *Lidia* married a slave she lost her freedom. "Si aldia aut libera—servum maritum tulerit libertatem suam amittet" (L. Rothar, Maurer, xx, note 42). By the same law, however, the children followed the offending hand. These mixed marriages became more and more frequent towards the beginning of the ninth century, which tended greatly to the mixture of the different kinds of *coloni.* Their marriages *inter se* were as valid as those of free people. They were not to marry, however, without the consent of their lords, except the royal *liti* (Maurer, *op. cit,* xx), although when they did so the marriage was deemed valid. As freemen they bore arms and accompanied their lords to war, unless they were granted special immunities: "Si nuntius venerit ut ad succurendum debeant venire et hoc neglexerit—si litus fuerit solidos 15 componat" (Capt. of 802); "Homines ecclesiæ, liti, et coloni, in expeditionem ire non cogantur . . . quod homines tam liberos quam et lutos in hostem ire compellant . . . ab expeditione hostile tam de litis quam de ingenuis hominibus." This was also the case with the *Aldiones:* "Sunt aldiones duo, qui propter hostem adi psam villam se tradiderunt" (Maurer, 20, note 48). In the old Saxon polity they, like the *Edlingi* and *Frilingi,* had the right of audience at the general assembly, and of electing twelve of their body to serve there (Hucbald, in Pertz, xi, 361). When Charlemagne defeated the Saxons in 780, he took hostages both from the *ingenui* and the *liti.* With the right of bearing arms they had that of *faida* (*Fehdé, i.e.,* private war) and of blood revenge (*inimicitia propinquorum*), and claimed a weregild double that of slaves and one-half that of freemen. As the relatives of the dead *litus* shared in his private feud, so they also shared the weregild, not only among the Frisians, Bavarians, and Lombards, but also most probably among the Saxons (Maurer, xxi). As free people they had to answer for their ill-deeds, while masters were answerable for those of their slaves. They had their own special weregild, and were allowed to clear themselves by their oath, with or without compurgators, and to appeal to the test of a judicial duel, when they were unwilling to submit to the ordeal by fire or water; while slaves could only produce the oath of

their lords, and were obliged to submit to the ordeal by fire and water (*id.*, 21). As free people they also had their own property (*propria pecunia*—"Omne peculiare, res liti, substantia," &c.), and could employ slaves and even free people (*liberi homines*) and *Liti* in their service. They differed from the fully free in that they had a master (*dominus*) senior protector or patron (*patronus* or *muntherro*). They were not the property of their lord, however, like the slaves, but only under his protection and shelter (*mundium*). They were thence called *mundiali*. They were not answerable for their master's misdeeds, except they shared in the order he had given or freely undertook the responsibility. He could, however, be summoned to appear at the instance of the *Litus*: "Si quis a lido suo pro aliqua causa in ratione fuerit inventus, super noctes 14 ipsum lidum ad placitum adducat, si senior suus in ipso comitatu est. Si in alio comitatu est, ipse lidus suum seniorem ad placitum adducat" (*id.*, 23, note 77). He might free an accused *Litus* by his own oath from the ordeal, and by the payment of the composition, from the penalty of death. If, however, he did not wish to be responsible for him he could release the accused *Litus* and other *protegés* from his protection (*dimittatur a domino—maleficos a suo obsequio secure*), and leave him to the blood revenge of the family. Among the Lombards alone were the lords bound to purge their *aldioni* by oath or battle (*per sacramentum aut per pugnun*), or to pay the composition (*compositio*). The *Liti*, like the freedmen, had to pay a specified tax called "litmonium," or "lidmonium": "Isti (*liti*) solvunt denarios iv de litmonio" (*id.*, 34, note 83), and on their death a portion of their assets and their weregild was paid to the lord. Many of the *Liti*, *Aldioni*, and other *protegés*, had for the most part their own property. Speaking of one of several families of *Liti*, it is said, "Isti omnes habent mansos et censum debitum persolvunt" (Dronke, Trad. Fuld., pp. 48, 49, 51). Of others it is said, "Isti non habent mansos nec hubas vel beneficias sed de proprio corpore debitum censum persolvunt" (*id.*, 24, note 85). Those who held property were tied to the land, and could be transferred with the ground. This class of *Liti* was, in fact, something like the serfs in Russia. In order to change from this condition to that of freemen they required to be emancipated. Marriage between *Liti* and freemen was in early times punished by death. In later times, if a free-woman (*ingenua*, or *libera*) married a *Litus* wilfully, she lost her freedom or was fined. The children of a freeman who had married an *Aldia* were not free-born and legitimate: they had therefore no right of inheritance.

Such were some of the surroundings of the status of a *Litus*. It helps us to bridge the history of Western Europe from the

time of the Roman occupation to that of the final domination of the Germanic tribes, to find them all along the borders of the empire settling down, first as military colonists, under the shadow of the great Empire, and forming an irregular portion of its subjects, with an art culture having very much the same facies, whether we test it in Burgundian graves or those of Kent, and gradually, under their own chiefs, and after they had adopted Roman institutions in a large measure, and occupying the country as their own when the hands of the Imperial officials became too feeble to govern them. We will now give a conspectus, so far as we can, of the various occasions in which the Franks are named, from the earliest times to the death of Chlovis.

[*Section II of Part VI will be published in the next volume.*]

ANNUAL GENERAL MEETING.

JANUARY 23RD, 1883.

JOHN EVANS, Esq., F.R.S., *Vice-President, in the Chair.*

The notice convening the meeting was read by the Director.

The Minutes of the last Anniversary Meeting were read and confirmed.

The CHAIRMAN then declared the ballot open, and appointed Captain BEDFORD PIM, R.N., and Mr. W. S. W. VAUX, F.R.S., scrutineers.

Mr. F. G. H. PRICE, the Treasurer, read his report for the year 1882, as follows:—

TREASURER'S REPORT.

The Annual Statement of Receipts and Payments and the Balance Sheet are submitted herewith.

ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.

Receipts and Payments for the Year ending 31st December, 1882.

RECEIPTS.

	£	s.	d.	£	s.	d.
BALANCES, January 1st, 1882:						
At Bankers'	250	17	8			
In Office	0	17	11			
				251	15	7
SUBSCRIPTIONS:						
Paid to Messrs. Robarts & Co.	76	13	0			
" Collector	372	15	0			
" " Life Compositions	89	5	0			
" " due 1881	44	2	0			
" " in advance	6	6	0			
				589	1	0
ILLUSTRATION FUND:						
E. H. Man, Esq.				21	16	0
ANTHROPOLOGICAL CLUB				4	7	3
SALE OF PUBLICATIONS:						
Messrs. Trübner & Co.	85	11	6			
Messrs. Longmans & Co.	1	15	5			
Office:						
Journals	1	15	9			
Other Publications	2	15	0			
				91	17	8

PAYMENTS.

	£	s.	d.	£	s.	d.
RENT, one year to September, 1882				130	0	0
PRINTING:						
Journal, Nos. 35, 36, 37, 38, 39	245	17	4			
Miscellaneous	62	4	6			
				308	1	10
LITHOGRAPHY, &c.				133	16	1
SALARIES AND COLLECTOR'S COMMISSION				170	5	6
POSTAGES:						
Journal	19	4	5½			
Letters and Post Cards	16	17	9			
Book Parcels and Circulars	3	4	2½			
				39	6	5
ADVERTISING				7	6	0
OFFICE:						
Stationery, &c.	6	15	2			
Receipt Stamps, &c.	2	6	0			
Insurance	0	18	0			
Carriage of Parcels	2	10	9			
Miscellaneous	2	11	10½			
				15	1	9½

DIVIDENDS:			
Quarter on £1,060 1s. 10d., 3½ per. cent stock	9 1 8		
Three quarters on £1,099 12s. 10d., 3½ per cent stock	28 2 11		
		37 4 7	
HOUSE:			
Mrs. Ayres, gratuity for 1881	15 0 0		
„ coals and lights	5 11 0		
„ assistance, &c.	3 19 0		
„ refreshments at Evening Meetings	21 0 0		
		45 10 0	
PURCHASE of £39 11s. Metropolitan 3½ Per Cent.		42 0 0	
BALANCES:			
At Bankers'	102 13 6		
In Office	2 0 11½		
		104 14 5½	
	£996 2 1	£996 2 1	

We hereby certify that we have examined the accounts and vouchers of expenditure, and have found the same correct.

(Signed) M. J. WALHOUSE, J. E. KILLICK, } *Auditors.*

January 1883.

APPROXIMATE STATEMENT OF LIABILITIES AND ASSETS ON JANUARY 1ST, 1883.

LIABILITIES.	£ s. d.		ASSETS.	£ s. d.	£ s. d.
Sundry Creditors, namely:—					
Printers' account	128 0 0		Balance in Bank, 1st January, 1883	102 13 6	
House expenses	25 19 5		„ at Office	2 0 11½	
Rent	32 10 0				104 14 5½
Carpenter's account	18 9 6		Subscriptions in arrear		365 10 0
Balance in favour of the Institute	3,728 2 11½		£1,099 12s. 10d., Metropolitan Consolidated Stock at 105½		1,162 17 5
			Estimated value of Library, stock of publications, office furniture, &c.		2,300 0 0
	£3,933 1 10½				£3,933 1 10½

It will be interesting to compare the ordinary income of the Institute during 1881 with that of the previous year:—

	1881.			1882.			Increase.		
	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
Annual Subscriptions	463	1	0	521	17	0	58	16	0
Compositions	63	0	0	89	5	0	26	5	0
Sales	87	8	10	91	17	8	4	8	10
Dividends	35	15	2	37	4	7	1	9	5
Total..	649	5	0	740	4	3	90	19	3

This statement thus shows an increase, in the annual income, of £90 19*s.* 3*d.*

The sum of £42 has been invested in the purchase of £39 11*s.* Metropolitan Stock, so that the Institute now possesses £1,099 12*s.* 10*d.*, 3½ per cent. Metropolitan Stock, the present value of which is £1,162 17*s.* 5*d.*

The Anthropological Dinner Club having become extinct, which I trust may be revived at no far distant date, the Treasurer of the Club, Mr. Worsley, handed over to me the sum of £4 7*s.* 3*d.* to be credited to the Institute.

In comparing the expenses under the head of printing and lithography it will be seen that five parts of our *Journal* have been paid for during the year, and that these have been more fully illustrated than usual, which I hope may have the effect of increasing their sale. This it has already done to some extent, as our receipts for sales of publications are in excess of those for 1881.

It should be noted that the sum of £21 16*s.* has been contributed by Mr. E. H. Man, towards the illustration of his paper on the Andaman Islanders.

Our office expenses during the year have considerably diminished. I think we may fairly congratulate the members of the Institute upon having had a favourable year, and it is to be earnestly hoped that the number of members will increase, and that the study of anthropology will become more popular every year.

F. G. H. Price,
Treasurer.

On the motion of Mr. A. H. Keane, seconded by Mr. A. L. Lewis, the Treasurer's Report was adopted.

Mr. F. W. Rudler, the Director, then read the following Report:—

Report of the Council of the Anthropological Institute of Great Britain and Ireland for 1882.

The Council has to report that during the past year the Institute has held fourteen ordinary meetings, the usual Anniversary Meeting, and a special extra meeting at the close of the session. By the invitation of General and Mrs. Pitt Rivers, the meetings of May 23rd and July 11th were held at the President's private residence. In the course of the year thirty-two communications have been submitted to the Institute, of which the following is a list, arranged in the order in which they were read:

1. "On the Entrenchment of the Yorkshire Wolds, and Excavations in the Earthwork called Danes' Dyke at Flamboro'." By Major General Pitt Rivers, F.R.S., *President.*
2. "On the Discovery of Ancient Dwellings on the Yorkshire Wolds." By J. R. Mortimer, Esq.
3. "On the Twelve Tribes of Tanganyika." By Edward C. Hore, Esq., Master Mariner.
4. "Notes on the Napo Indians." By Alfred Simpson, Esq.
5. "Note on a Patagonian Skull." By George W. Bloxam, Esq., M.A., *Assistant-Secretary.*
6. "Note on Aggri Beads." By J. E. Price, Esq., F.S.A.
7. "Analysis of Relationships of Consanguinity and Affinity." By A. Macfarlane, Esq., M.A., D.Sc.
8. "From Mother-right to Father-right." By A. W. Howitt, Esq,, F.G.S., and the Rev. Lorimer Fison, M.A.
9. "On the Aboriginal Inhabitants of the Andaman Islands." By E. H. Man, Esq., Part I.
10. "On the Relation of Stone Circles to Outlying Stones or Tumuli, or Neighbouring Hills." By A. L. Lewis, Esq.
11. "Excavations of Tumuli on the Brading Downs, Isle of Wight." By J. E. Price, Esq., F.S.A., and F. G. Hilton Price Esq., F.S.A., *Treasurer.*
12. "Note on the Distribution and Varieties of a Padlock." By Major-General Pitt Rivers, F.R.S., *President.*
13. "The Papuans and Polynesians." By C. Staniland Wake, Esq.
14. "Rites and Customs in Old Japan." By C. Pfoundes, Esq.
15. "On the Aboriginal Inhabitants of the Andaman Islands," Part II. By E. H. Man, Esq.
16. "On the Evidence of Surnames as to Ethnological Changes in England." By J. Beddoe, Esq., M.D.
17. "On the Survival of certain Racial Features in the Population of the British Isles at the present day." By J. Park Harrison, Esq., M.A.
18. "On Systems of Land-Tenure in different Countries." By the Right Hon. Sir H. Bartle Frere, Bart., G.C.B., G.C.S.I., F.R.S., &c.
19. "Nepotism in Travancore." By the Rev. S. Mateer, F.L.S.
20. "The Laws of Madagascar." By G. W. Parker, Esq., M.R.C.P.
21. "On Remains at Cummer, Co. Wexford." By G. H. Kinahan, Esq.
22. "Note on some Egyptian Antiquities." By Villiers Stewart, Esq., M.P.
23. "On some Mexican Terra-Cotta Figures." By Dr. Becher.
24. "On the Aboriginal Inhabitants of the Andaman Islands," Part III. By E. H. Man, Esq .
25. "On the Longevity of Romans in North Africa." By the Right Hon.

Lord Talbot de Malahide, F.R.S., President of the Royal Archæological Institute.

26. "On Neolithic Stone Implements, from Wásá on the Gold Coast." By Captain R. F. Burton and Commander V. L. Cameron, R.N., C.B.

27. "Note on the Egyptian Boomerang." By General Pitt Rivers, F.R.S., *President.*

28. "Exhibition of Bushman Drawings." By M. Hutchinson, Esq., with Note by W. L. Distant, Esq.

29. "Some Apparatus for testing the Delicacy of the Muscular and other Senses." By Francis Galton, Esq., F.R.S.

30. "On the Language and People of Madagascar." By Dr. G. W. Parker.

31. "Note on some Flint Implements and Flakes from Cape Blanc Nez (near Calais)." By A. L. Lewis, Esq.

32. "On the Australian Class Systems." By A. W. Howitt, Esq., F.G.S.

Between the 1st January and the 31st December, 1882, the members have received four Nos. of the *Journal*, namely, Nos. 38, 39, 40, and 41. These contain 585 pages of letterpress, 37 plates, and a large number of folding tables. The Council would not have felt justified in authorising the issue of a *Journal* so freely illustrated, had not the expense of several of the plates been generously defrayed by the President and by Mr. E. H. Man.

During the year twenty-four new Members have been elected into the Institute, and one Member who resigned last year has rejoined.

The former and present state of the Institute with regard to the number of Members are shown in the following Table:—

	Honorary.	Compounders.	Annual Subscribers.	Total.
January 1st, 1882 ..	51	91	313	455
Since elected	..	+2	+23	+25
Since deceased ..	−2	−1	−2	−5
Since retired	..	..	−9	−9
January 1st, 1883 ..	49	92	325	466

It will be seen from this Table that the Institute has gained during the year twelve Annual Subscribers and one Compounder. The Council regrets to report that the Institute has lost, through death: Mr. Charles Darwin, F.R.S., and Dr. Pruner Bey, from the list of Honorary Members; and Mr. Horatio Love, Mr. M. Moggridge, F.G.S., and Mr. J. Moore, among its Ordinary Members.

Mr. CHARLES ROBERT DARWIN had been an Honorary Member of the Institute from the time of its formation in 1871, and had previously been an Honorary Fellow both of the Ethnological and of the Anthropological Society. So many notices of Mr. Darwin's life have recently appeared that it is unnecessary in this place to dwell upon its details. Born on February 12th, 1809, he was the son of Dr. R. W. Darwin, a physician of Shrewsbury. It is noteworthy that his grandfather on the one side was the famous Erasmus Darwin, and on his mother's side the equally famous Josiah Wedgwood. Mr. Darwin received his early education at the Shrewsbury Grammar School, and at the University of Cambridge; and it was under the influence of Professor Henslow, at Cambridge, that his love of natural science was first developed. In 1831 he started with Captain Fitzroy on the memorable voyage of the "Beagle," and during his five years of exploration laid the foundation of the great work of his life. It is needless in this exceedingly brief notice to enumerate the long list of Mr. Darwin's well-known writings. The unparalleled effect which these writings have produced in every department of natural science has been especially marked in Anthropology. It is true that our *Journal* does not contain any contribution from his pen; but he took a deep interest in the work of the Institute, and frequently quoted from our publications in his two great anthropological works, "The Descent of Man" and "The Expression of the Emotions in Man and the Lower Animals." Mr. Darwin died on the 19th of last April, and the Council of the Institute, at their Meeting on the 25th of that month, passed a vote of condolence with the family, while at the Evening Meeting of the same date a brief tribute was publicly paid to his work and character (see p. 229). A deputation appointed by the Council attended Mr. Darwin's funeral, which took place in Westminster Abbey, on April 26th.

Dr. PRUNER BEY, who died at Pisa on September 29th, was an Honorary Member of the Institute from the time of its formation, having been elected an Honorary Fellow of the pre-existing Anthropological Society, in 1863. At that time he occupied the position of President of the corresponding Society in Paris, and to the *Bulletins* of that Society he contributed a large number of valuable papers on Craniology and other departments of Physical Anthropology. The pages of our "Anthropological Review" also contain some of his writings—notably an essay on Human Hair as a race-character.

Mr. MATTHEW MOGGRIDGE, formerly of Swansea, was elected into the Ethnological Society in 1869, and passed into the

Anthropological Institute on its foundation. Taking a keen interest in several branches of natural science, he was drawn towards the objects of this Institute, and was at one time a familiar attendant at our meetings and a frequent contributor to our discussions. Towards the latter part of his life he resided much at Mentone, where he copied the rock-inscriptions of the neighbourhood. Many of our members will recollect his communications to the Anthropological Department of the British Association, in 1871 and 1872, with reference to the human remains found in the Mentone Caverns.

The following is a list of the names of donors to the Library during the past year:—

Professor Agassiz; Colonel Almonte; Dr. A. Bastian; G. Bertin, Esq.; S. E. B. Bouverie-Pusey, Esq.; Mrs. Brash; Hyde Clarke, Esq.; R. Cust, Esq.; W. L. Distant, Esq.; John Evans, Esq.; A. Featherman, Esq.; Dr. Robert Fletcher; Albert S. Gatschet, Esq.; Dr. Guy; F. F. Hilder, Esq.; Dr. W. J. Hoffman; W. J. Knowles, Esq.; Lieutenant G. Kreitner; M. Terrien de Lacouperie; T. W. Leys, Esq.; Sir John Lubbock; Dr. A. B. Meyer; D. C. F. Moodie, Esq.; Herr M. Neumayr; Dr. Giustiniano Nicolucci: Dr. Theodor Pœsche; J. W. Powell, Esq.; F. W. Putnam, Esq.; Signor E. Regalia; Signor A. Rubbiani; F. W. Rudler, Esq.; Professor Schaaffhausen; Dr. W. Sharpe; Rev. J. Sibree; Lieutenant R. C. Temple; Professor R. Virchow; George E. Waring, jun., Esq.; Captain George M. Wheeler; W. Whitaker, Esq.; The Government of Madras; The Government of New Zealand; The Government of the Punjab; The Secretary of State for India; The Secretary of the Treasury of the United States; Le Sécrétaire Générale de Quatrième Congres International d'Hygiène et de Démographie; Académie Impériale des Sciences de St. Pétersbourg; Akademia Umiejetnosci w Krakowie; American Association for the Advancement of Science; American Museum of Natural History; American Philosophical Society for Promoting Useful Knowledge; Anthropologische Gesellschaft, Wien; Asiatic Society of Bengal; Asiatic Society of Japan; Bataviaasch Genootschap van Kunsten en Wetenschappen; Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte; Berwickshire Naturalists' Field Club; British Association for the Advancement of Science; Ceylon Branch of the Royal Asiatic Society; Deutsche Gesellschaft für Anthropologie, Ethnologie und Urgeschichte; Devonshire Association for the Advancement of Science, Literature, and Art; East India Association; Epping Forest and County of Essex Naturalists' Field Club; Geographical Society of the Pacific; Geological and Natural History Survey of Canada; Geological Society of Glasgow; Geologists' Association; Hungarian Academy; K.K. Geographische Gesellschaft, Wien; Kaiserliche Akademie der Wissenschaften, Wien; Kongelige Danske Videnskabernes Selskab: Kongliga Vitterhets Historie och Antiqvitets Akademien, Stockholm; Koninklijke Akademie van Wetenschappen, Amsterdam; Leeds Philosophical and Literary Society; Madagascar Committee; National Association for the Promotion of Social Science; Naturhistorisch-Medizinische Verein, Heidelberg; New Zeland Institute; North China Branch of the Royal Asiatic Society; Oberhessische Gesellschaft für Natur-und Heilkunde; Offenbacher Verein für Naturkunde; R. Accademia dei Lincei, Roma; Royal Asiatic Society; Royal Colonial Institute; Royal Dublin Society; Royal Geographical Society; Royal Historical and Archæological Association of Ireland; Royal Institution of Cornwall; Royal Society; Royal Society of Edinburgh; Royal Society of Literature; Royal Society of New South Wales; Royal Society of Tasmania; Royal Society of Victoria; Royal United Service Institution; Smithsonian Institution; Sociedade de Geographia de Lisboa; Sociedade de Geographia de Mocambique; Società Africana d'Italia;

Società Italiana di Antropologia, etnologia e psicologia comparata; Société d'Anthropologie de Lyon; Société d'Anthropologie de Paris; Société de Borda, Dax; Société des Sciences Naturelles, Neuchatel; Société Impériale des Amis d'Histoire Naturelle, Moscou; Société Impériale des Naturalistes de Moscou; Society of Antiquaries; Society of Antiquaries of Scotland; Society of Arts; Society of Biblical Archæology; State Board of Health, &c., Massachusetts; University of Durham, College of Medicine; University of Tokio; Verein für Erdkunde, Metz; The Editor of the American Antiquarian; The Editor of the Bulletino di Paletnologia Italiana; The Editor of the Correspondenz-Blatt; The Editor of the Field Naturalist and Scientific Student; The Editor of the Journal of Mental Science; The Editor of the Matériaux pour l'Histoire de l'Homme; The Editor of Nature; The Editor of the Revue d'Anthropologie; The Editor of the Revue d'Ethnographie; The Editor of the Revue Politique et Littéraire; The Editor of the Revue Scientifique; The Editor of the Scientific Roll; and The Editor of Timehri.

It was moved by Dr. GARSON, seconded by Mr. KILLICK, and carried unanimously, that the Report of the Council be adopted.

The CHAIRMAN, having been called upon to preside at only a very brief notice, delivered an extemporaneous address, of which the following is an abridged report:—

ADDRESS. By Mr. JOHN EVANS, F.R.S.

After expressing regret at the President's unavoidable absence on this occasion, the Chairman briefly reviewed the work of the Institute during the past session. In this survey he dwelt especially on the valuable papers which had been contributed by Mr. E. H. Man, whose careful observations during a residence of eleven years in the Andaman Islands had enabled him to present to the Institute a fuller and more accurate account of the inhabitants than had been given by any previous writer. It was satisfactory to note that in the preparation of his papers on the Andamanese Mr. Man had been mainly guided by the instructions in the volume of "Notes and Queries on Anthropology," and in fact these papers might almost be regarded as the first-fruits of that useful work. Allusion was also made to Dr. Parker's papers on the Malagasy, which deserved recognition, inasmuch as the author had resided for many years, as a medical man, among the people whom he described. Dr. Macfarlane's "Analysis of Relationships of Consanguinity and Affinity" was likewise referred to as a communication of much

originality; and it was believed that several other papers which had been read during the year would prove of substantial value to students of Anthropology.

Mr. Evans then spoke of the loss which the Institute had suffered during the year by the death of several of its members, and took occasion to pay an eloquent tribute to the genius of Mr. Darwin. In noticing the general progress of Anthropology attention was called to the recent appearance of Dr. Hamy's "Revue d'Ethnographie," a periodical which promised to be a useful addition to anthropological literature, and thus deserved the good wishes of the Institute.

Passing to the main subject of his address, the present state of our knowledge of the Antiquity of Man, Mr. Evans referred to the Conference which was held at the Institute during his Presidency in 1877, when the subject was discussed so far as evidence was then available. The age of the beds in which Mr. Skertchly had found flint implements near Brandon was still an open question. It might be fairly doubted whether it could be satisfactorily established that flint implements had been discovered in brick-earth that passed directly beneath undisturbed Chalky Boulder Clay. Professor Boyd Dawkins, however, was disposed to believe that man existed in East Anglia before the Upper Boulder Clay had ceased to be deposited. According to this observer the earliest indisputable evidence of man's presence in this country consisted of certain flint flakes derived from the Lower Brick-earths of Crayford and Erith, which are Mid-Pleistocene deposits, the exact age of which is doubtful, some geologists regarding them as inter-glacial and others as pre-glacial. The palæolithic implements from the river-drifts of the South of England are probably in most cases of post-glacial age, notwithstanding Professor James Geikie's assumption of a far higher antiquity. In some cases they have evidently been formed from ice-borne boulders.

Several recent discoveries bearing on palæolithic man were then noticed, and reference specially made to the work of Mr. Worthington Smith, in the gravels of Hackney, and of Mr. Flax-

man Spurrell at Crayford. It was interesting to note that at the latter locality a flint implement had been found in association with many of the flakes which had been chipped off in the course of its preparation, so that by re-attaching the flakes to the implement Mr. Spurrell had been enabled to restore with some approach to completeness the original block of flint which palæolithic man had worked on this very spot.

Many authorities, not content with carrying the antiquity of man back to pre-glacial times, profess to have discovered proofs of his existence in deposits of Tertiary age. Geologists include under the term "Tertiary" all the strata which extend from the top of the Chalk to the Norwich Crag. The uppermost Tertiary beds are known as Pliocene; those next in descending order as Miocene; and the lowest as Eocene. Relics of human workmanship have been reported from deposits which have been referred to the Pliocene and Miocene periods; but it may be doubted whether any of these reported discoveries rest on a thoroughly substantial basis. Professor Cocchi has cited the occurrence of a human skull with flint implements at Olmo, near Arezzo, in Italy, as a proof of the existence of Pliocene man; but these implements are unquestionably of neolithic type, and it is probable that the ground in which they occurred had been disturbed. Considerable doubt also surrounds "the fossil man of Denise," who was supposed by M. Aymard to have been buried beneath the volcanic products of a Pliocene volcano in central France. M. Desnoyers discovered at St. Prest, near Chartres, some worked flints and cut bones in Pliocene gravels, where they were associated with the remains of the Southern elephant (*Elephas meridionalis*). But the cuts on these bones may have been made by the shark or the sword-fish; and the position of the implements is not beyond dispute. So too the cut bones said to have been found in the Pliocene deposits of Tuscany by Mr. Lawley and Professor Capellini are open to the same objections: the cuts do not necessarily indicate human workmanship, and the beds may not have been free from disturbance.

In discussing the alleged discoveries of the relics of man in Miocene strata, Mr. Evans dwelt upon the famous case of the late Abbé Bourgeois, in which worked flints, calcined flints, and cut bones were found in marine deposits below the fresh-water beds known as the "Calcaire de Beauce," at Thenay, near Pontlevoy, in France. The bones were principally those of an extinct species of manatee (*Halitherium*). A fragment of similar bone, likewise notched, had been found by M. Delaunay in Upper Miocene beds at Pouancé, in France. But in none of these cases did the speaker regard the evidence of human handiwork as thoroughly convincing. Flint flakes had also been reported by M. Roujon from Upper Miocene beds near Aurillac, but here the age of the deposit was questionable. Another discovery of similar character was that of M. Ribeiro at Otta, in the Valley of the Tagus, where the deposits were regarded variously as Pliocene and Miocene. Mr. Evans had visited this locality, and had carefully examined the flakes, but these mostly showed only a single bulb of percussion, and had therefore insufficient claims to be cited as absolute proofs of human workmanship. On the whole he considered that English Anthropologists were justified, with the evidence at present before them, in maintaining an attitude of doubt as to the value of the evidence hitherto adduced of the existence of Tertiary Man.

On the motion of PROFESSOR FLOWER, seconded by Mr. HYDE CLARKE, a vote of thanks was unanimously accorded to Dr. Evans for the admirable Address which he had delivered at so short a notice.

The Scrutineers reported the result of the ballot, and the following gentlemen were declared to be duly elected to serve as Officers and Council for the ensuing year:—

President.—Prof. W. H. Flower, LL.D., F.R.S.

Vice-Presidents.—Hyde Clarke, Esq.; John Evans, Esq., D.C.L., F.R.S.; Francis Galton, Esq., F.R.S.; Lieut.-Gen. Pitt Rivers, F.R.S.; A. Thomson, Esq., M.D., F.R.S.; E. B. Tylor, Esq., D.C.L., F.R.S.

Director.—F. W. Rudler, Esq., F.G.S.

Treasurer.—F. G. H. Price, Esq., F.S.A.

Council.—J. Beddoe, Esq., M.D., F.R.S.; S. E. B. Bouverie-Pusey, Esq.; E. W. Brabrook, Esq., F.S.A.; C. H. E. Carmichael, Esq., M.A.; W. Boyd Dawkins, Esq., F.R.S.; W. L. Distant, Esq.; A. W. Franks, Esq., M.A., F.R.S.; Lieut.-Col. H. H. Godwin-Austen, F.R.S.; Prof. Huxley, LL.D., F.R.S.; A. H. Keane, Esq., B.A.; A. L. Lewis, Esq., F.C.A.; Sir J. Lubbock, Bart., M.P., F.R.S.; R. Biddulph Martin, Esq., M.P.; Henry Muirhead, Esq., M.D.; J. E. Price, Esq., F.S.A.; Lord Arthur Russell, M.P.; Prof. G. D. Thane; Alfred Tylor, Esq., F.G.S.; M. J. Walhouse, Esq., F.R.A.S.; R. Worsley, Esq.

It was moved by Mr. PARK HARRISON, seconded by Mr. JAMES HEYWOOD, and carried unanimously, that the thanks of the Institute be given to the retiring President and Members of Council, to the Auditors and to the Scrutineers.

ANTHROPOLOGICAL MISCELLANEA.

To The Editor, "Journal of the Anthropological Institute."

Dear Sir,

Can any of your readers tell me anything about four upright stones which stand on the Clent Hills, near Hagley, Worcestershire? I saw them a few months ago, and was informed by a clergyman whom I met that they were not "Druidical," but had been placed there within the last hundred years or so; still they present the appearance of considerable antiquity, and the friend who told me of their existence says that when he saw them twenty-five or thirty years ago they looked very old; an old countryman whom I met had known them all his life, but knew nothing about the time of their being placed there; I have also heard that the county boundary used to run between the stones, though it does not do so now. Their position is peculiar, and I might have something further to say about them if I could be assured as to their age, so if any of your readers can settle that point I shall be very much obliged to them.

Yours truly,
A. L. LEWIS.

35, Colebrooke Row, N.,
14*th February*, 1883.

Rivers of Life; *or, Sources and Streams of the Faiths of Man in all Lands, showing the Evolution of Faiths from the rudest Symbolisms to the latest Spiritual Developments.* By Major-General J. G. R. Forlong, F.R.G.S., F.R.S.E., M.A.I., &c. London: Bernard Quaritch, 1883. 2 vols., 4to.

The important work of which the above is the comprehensive title cannot fail to attract very great attention, not only in the religious world, but also among anthropologists. The subjects of which the imposing volumes treat are in themselves sufficiently interesting. We have as titles for the chapters of the first volume, "Tree Worship," "Serpent and Phallic Worship," "Fire Wor-

ship," "Sun Worship," and "Ancestor Worship." Each of these subjects is deserving of a separate work to itself, and an ordinary writer would treat of them in that manner. Such a course would not, however, be consistent with the object which General Forlong has in view. The object is not the description merely of certain faiths. It is to show that all faiths have originated in certain ideas which form their common basis, and to trace their development and their mutual reaction throughout the world's history. The lines of that development have been aptly termed Rivers of Life, and these streams are shown on a large coloured chart, seven-and-a-half feet long, "in which are depicted, in several parallel columns, the rise and fall of the various religious ideas, mythologies, and rites which have at any time prevailed among nations. The action and reaction of the several religious forces upon one another, their relation and the migration of races, the growth of nationalities, language, and literature, are here exhibited in chronological order." The chart shows, moreover, "the degrees of intensity manifested at stated periods by any particular wave of doctrine or worship, and the mode in which the tributary streams of mythological or theological thought become in turn absorbed in the central River of Life." The preparation of this chart, and also of the synoptical table at the end of the work, showing the correspondence between the gods and god-ideas of different religions, must have been attended with very considerable labour. They form a large collection of facts and supply a key to the author's system, a short examination of which we now propose to give; first, however, seeing what are the qualifications possessed by him for the carrying out of the important work he has undertaken. Those qualifications are of a unique character, and they cannot be better stated than in the language of a literary gentleman to whom the work was submitted as it passed through the press. He says:—

"The author, a retired officer of the British Indian Service, has devoted the greater part of an active life to the investigation of the religious beliefs of the primitive world, so far as they can be traced from the languages and monuments of antiquity, or from their survivals in the symbols and rites of living creeds. His studies have enabled him to construct a theory of the evolution of faiths, which, if novel and startling, is based upon an accumulation of facts, gathered and put together with an industry and patience which are amazing. One of the most interesting features of the work is the information which it embodies, drawn from living sources, which are generally overlooked or ignored by antiquaries and philologists. General Forlong has habitually made himself master of the local dialects of the various districts in which his lot has been cast. Employed for many years as superintendent of large engineering enterprises throughout our Indian possessions, and always a keen observer of men and facts, he has thus had unusual opportunities of cultivating friendly intercourse with natives of the most varied religious types; while the sympathetic zeal and veneration with which he approached the subject, admitted

him to shrines, or obtained for him instruction in secret mysteries, seldom opened to the mere student of the classical literature of the country. The hints thus acquired by the observation of tribal religions, occult rites, and sacerdotal teaching in actual life, have been followed up by a diligent exploration of ruined temples, pillars, and mounds, and all such traces of a primitive symbolism, which lie scattered over the East and West, as religious fossils underlying the superficial crust of recent theological strata."

The object of the work can be well judged of by its title. Religious systems, or rather the development and spread of the ideas embodied in them, may aptly be called streams of faiths, Like rivers, however, those streams have a beginning, and it is all important to ascertain the sources from which they flow. What then are man's primitive faiths, and to what roots are they to be traced? General Forlong arranges the early "symbolic objects of man's adoration" in the following order:—1st, Tree; 2nd, Phallic; 3rd, Serpent; 4th, Fire; 5th, Sun; 6th, Ancestral. He believes that the "first breathings of the human soul" were manifested under the sacred tree or grove, whose refreshing shade is so highly valued in the East. All nations, particularly the Aryans, have considered tree-planting a sacred duty, and the grove was man's first temple, "and became a sanctuary, asylum, or place of refuge, and, as time passed on, temples came to be built in the sacred groves." If tree-worship had such an origin as is here supposed it ought to be shown in the ideas associated with it. What then are these ideas? General Forlong, after referring to Mr. Fergusson's statement that the tree and serpent are symbolised in every religious system which the world has known, says that the two together are typical of the reproductive powers of vegetable and animal life. The connection between tree and serpent worship is often so intimate that we may expect one to throw light on the other. The Aryans generally may be called tree worshippers, and according to Fergusson they as a rule destroyed serpents and serpent-worshipping races. Yet at Athens and near Rome both those faiths flourished together, as they appear to have done also in many parts of Western Asia. They are intimately associated in the religious notions of many Buddhist peoples. This is shown curiously in the early legends of Kambodia. These are said by General Forlong to present two striking features. "First, a holy tree, which the kingly race, who come to this serpent country, reposed under, or descended from heaven by; secondly, that this tree-loving race are captivated by the dragon princess of the land. It is the serpent king, however, who builds the city of *Nakon Thom* for his daughter and her stranger husband." It is not improbable that Buddhism originated among a people who were both tree and serpent worshippers, although the former became more intimately and at an earlier period associated with its founder.

Let us now see what ideas are symbolised by the serpent. We are told that he is an "emblem of the Sun, Time, Kronos, and Eternity." The serpent was, indeed, the Sun-God, or spirit of the sun, and

therefore Power, Wisdom, Light, and a fit type of creation and generative power. Dr. Donaldson came to the conclusion the serpent always has a phallic signification, a remark which is very gratifying to our author, as it exactly accords with his own experience, "founded simply upon *close observation* in Eastern lands, and conclusions drawn by himself, unaided by books or teachers, from thousands of stories and conversations with Eastern priests and people." The testimony of an actual observer is all important, and we must believe when we are told that the serpent, as the constant early attendant on the Lingam, is the special symbol which veils the actual God. The same may be said, indeed, of tree worship. General Forlong says, "The tree and serpent are the oldest of symbolic faiths, and as these embrace my second, we have thus the three first streams." It is evident, however, that phallic ideas are at the foundation of both tree and serpent worship, and therefore, if any of these faiths is entitled to priority, it must be given to that which has been assigned the second place. The author says, indeed, that phallic worship enters so closely into union with *all* faiths to the present hour that it is impossible to keep it out of any chapter. We can understand well how this should be as to the tree, serpent, and solar cults, but it is not so evident at first sight in relation to fire worship. If fire was, however, regarded as the servant of Siva, and all creating gods, there is no difficulty in accepting the position. The object of the worship offered to the sacred fire is consistent with that view. Thus Greeks, Romans, and Hindoos "besought Agni by fervent prayers for increase of flocks and families, for happy lives and serene old age, for wisdom and pardon from sin." Our author appears to see in the worship of fire essentially a household faith, and this was undoubtedly so if his explanation of the Lares and Penates is correct. These symbols represented "the *past* vital fire or energy of the tribe, as the patriarch, his stalwart sons and daughters did that of the *present* living fire on the sacred hearth." General Forlong states, indeed, that everything relating to blood used to be connected with fire, and he supposed therefore that *Agnatio* may have been *Relation by fire*, for the *Agnati* could only be those of the fire or father's side.

If the father derived his authority in the household from the sacred hearth-fire, we can understand why our author has assigned to ancestor worship the last place in his scheme. He says, moreover, that ancestor worship is "a development and sequence of that idiosyncracy of man which has led him to worship and deify even the living,—that which, according to the teaching of Enemerus, accounts for all the mythological tales of the gods and god-like men of Greece." And yet this is hardly consistent with other statements. Thus we are told that "the ancestor was worshipped in the great chief, 'the Father of Fathers,' each of whom was a member of the *Dii Gentiles* of his own clan, and this not only during the comparatively modern Roman sway, but during all the ages of serpent, fire, and solar faiths." In the still earlier faiths he was represented in the rude pillar, as well as in the little Lares and Penates of the

hearths. In this case, however, ancestor worship would seem to be entitled to stand on the same level as tree worship and serpent worship as a phase of the phallic faith. In fact, it is in a sense identified with serpent worship. General Forlong remarks that among the Greeks and Romans "the ancestor came to be honoured and worshipped only as the Generator, and so also the serpent as his symbol." This confirms the conclusion the present writer endeavoured to establish some time ago, that the serpent is really the representative of the ancestor, in which case ancestor worship is a very primitive faith, although in a specialised form it may possibly, as our author asserts, come later than sun worship.

After the evidence brought together in the present work, it can hardly now be contested that the same ideas underlie all the early faiths. This is the view entertained by General Forlong, who says, "So imperceptibly arose the serpent on pure phallic faiths, fire on these, and sun on all, and so intimately did all blend with one another, that even in the ages of true history it was often impossible to descry the exact god alluded to." The foundations of all those faiths, and of ancestor worship as allied to them, must therefore be sought in the ideas entertained by mankind in the earliest times, "when the race lived untaught, herded with their cattle, and had as their sole object in life the multiplication of these and of themselves." The question arises, however, whether the simple faith which man then entertained was the earliest he had evolved. General Forlong answers that question in the negative, for he says, when referring to the serpent Buddhism of Kambodia, that "Fetish worship was the *first* worship, and to a great extent is still the *real* faith of the great mass of the ignorant, especially about these parts." He finds that nearly one quarter of the world yet deifies, or at least reverences, sticks and stones, ram-horns and charms, a practice not unknown even to later faiths. The same must be said of animal worship, which may be understood to be carried along with and included in one or other of the six great faith streams. It may be doubted, however, whether this is a sufficient reason why a special consideration of fetishism and animal worship should not have been given in so comprehensive a work as the present. It appears to us, indeed, that, notwithstanding the wealth of material brought together, and the skill with which it is applied for the purpose of establishing analogies between the religions of different peoples, General Forlong has not given sufficient prominence to the fundamental belief which furnishes the key to the phenomena in question. Jacob Grimm pointed out, in his "Teutonic Mythology,"[1] that all nature was thought of by the heathen Germans as living. Gods and men transformed themselves into trees, plants, or beasts; spirits and elements attained animal forms; and therefore we cannot wonder at the heavenly bodies, and even day and night, summer and winter, being actually personified. These ideas lend themselves as well to fetishism as to sun worship, and all faiths alike may justly therefore be regarded as phases of one universal nature worship. Mankind prays only for

[1] Eng. Trans., vol. ii, p. 647.

that which they think good, and if one man seeks to obtain his desire through the agency of a stick or stone, and another through a serpent or planetary god: the difference between them is purely objective. The prayers which, according to Mr. J. Talboys Wheeler, were offered to the Vedic gods would be equally appropriate in the mouth of a native of Western Africa. They had relation simply to temporal needs, and were for abundance of rain, plentiful harvests, and prolific cattle, for bodily vigour, long life, numerous offspring, and protection against all foes and robbers. Moreover, the observances of the more advanced faiths have little practical difference from those of the fetishist. All alike have for their object the compelling the good countenance, or counteracting the evil designs, of the gods, and the real difference is to be sought in the symbols under which the gods are represented. The worship of "sticks and stones" has therefore just as much right to a place among the streams of faith as tree worship or serpent worship. Its absence from our author's scheme furnishes one of the chief objections which, in my opinion, can be made to General Forlong's very valuable work; another being a certain want of system, which is probably to be explained partly by the way in which the different parts of the subject run into one another, and partly by the fact that the work itself has evidently grown under the author's hands. At the same time those who will study the numerous facts and illustrations it contains with an unprejudiced mind must acknowledge that, although some of its arguments, more especially those based on recondite philological grounds, may not be sustainable, its general conclusions are true. Valuable light is thrown on the religion of the Hebrews by the author's remarks on the Ark of the Covenant and its contents; notwithstanding Mr. Stewart Poole's suggestion that the essential difference between the Ark and the Egyptian *Bari* is to be found in the supposed fact that the former "enshrined no symbolic emblem." To the anthropologist, one of the most interesting subjects connected with the great religious faiths is the question of their race origin. We have not space left to consider this point, but we may state that General Forlong's studies have gradually led up to the conclusion that those religions originated with "a people of an Aithi-opik or Meru-opik stock, which spread from High Asia as Eruthreans, Akads, Kaldus, Kuths or Kusis, Kemis or Ai-gupts, Keti, Hami or Hamaths, Kanâns," &c., and whom he classes together as Turanians. From this source sprang the magic mythologies of Arabians, Zoroastrians, Greeks, and Latins, including fire worship, and also serpent worship, which "was and is prominent in all Turanian religions." Whether or not this conclusion can yet be accepted as established is doubtful, although facts certainly point in that direction, and General Forlong has done good service in bringing them together so fully and so well.

C. Staniland Wake.

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